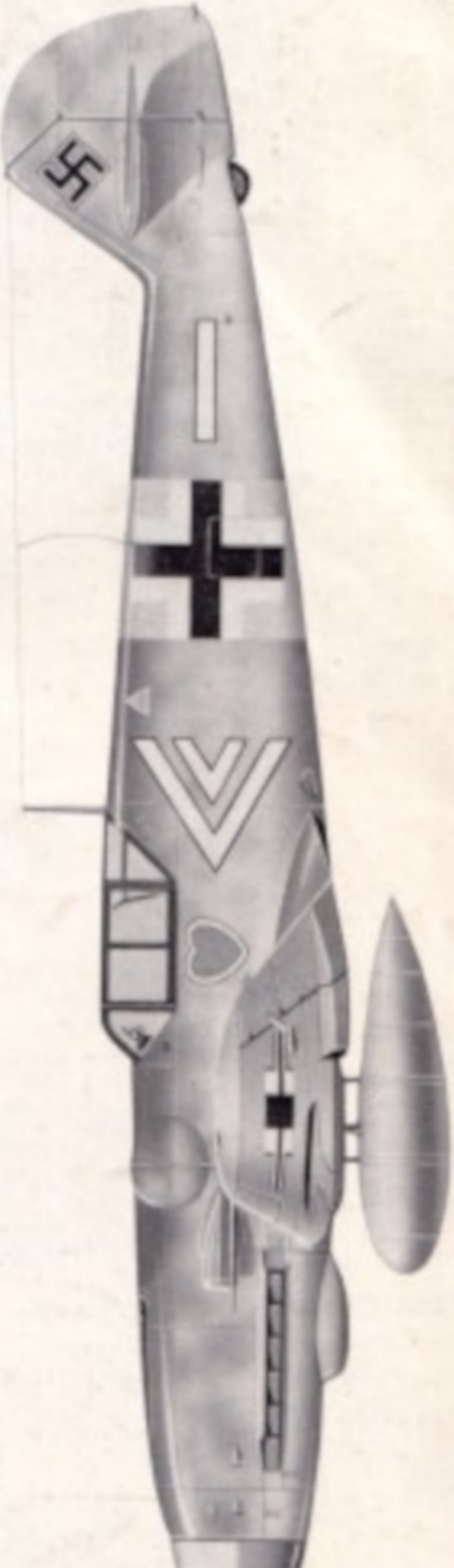
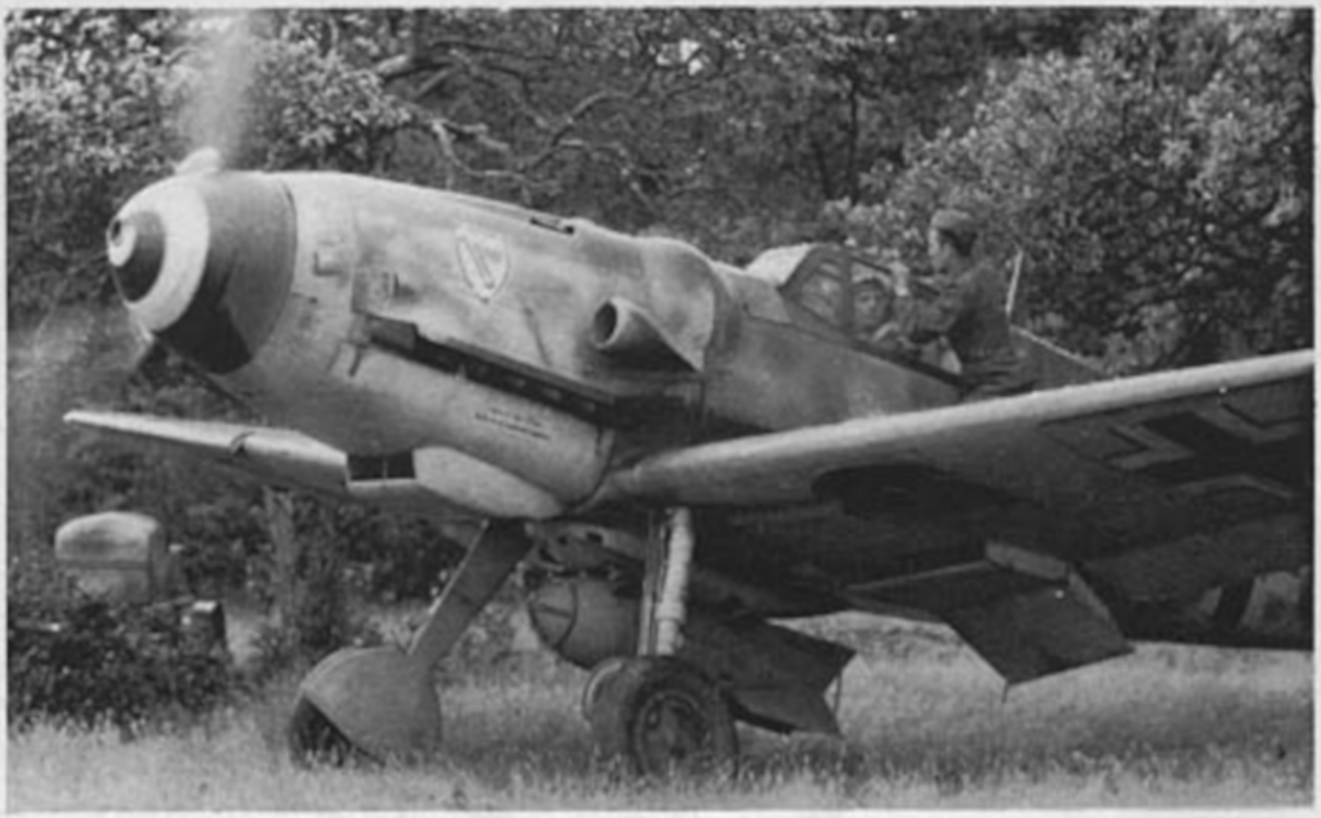
PROFILE PUBLICATIONS

The Messerschmitt Bf 109G

NUMBER 113
TWO SHILLINGS





A ground crewman helps to secure the canopy of a bomb-carrying Bf 109G-6/R1 as the pilot prepares for take-off. The aircraft illustrated served with the third Gruppe *of JG 3* "Udet", *and bears the emblem of the* Geschwader *on the cowling. (Unless otherwise indicated, all photographs appearing in this* Profile *are reproduced by permission of Mr. R. Carson Seeley).*

The Messerschmitt Bf 109G

by J. R. Smith and I. Primmer

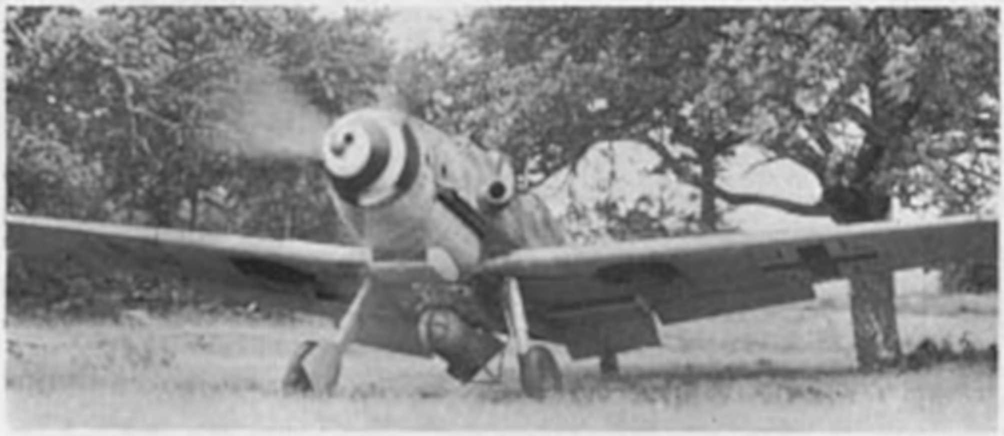
Although produced in far larger numbers than all other models of the Messerschmitt Bf 109, the G series, particularly in its more heavily armed variants, was considered by many to be inferior to its immediate predecessor, the Bf 109F. The Bf 109G or "Gustav" as it was dubbed by its pilots, entered service in the late summer of 1942, helping to supplement the ascendancy over the Spitfire V that the *Luftwaffe* already possessed with the Fw 190A.

The early production Bf 109G's were essentially similar to the Bf 109F series, but could be distinguished by the installation of a 1,475 h.p. Daimler Benz DB 605 A engine in place of the 1,300 h.p. DB 601 E. The pre-production batch of twelve Bf 109G-0's were built to Bf 109G standards, but because the DB 605 engine had not then appeared in numbers, were powered by the DB 601 E. Armament comprised two 7·9 mm. MG 17 machine guns and one engine-mounted 20 mm. MG 151/20 cannon. The Bf 109G-0 also featured some structural strengthening, and had provision for a pressurized cabin.

The first production model, the Bf 109G-1 was essentially similar to the G-0, but was powered by the 1,475 h.p. DB 605 A-1 engine plus GM-1 power boosting. This was a system whereby nitrous-oxide was injected into the supercharger to boost power above the engine's rated altitude. The Bf 109G-1/Trop was fitted with tropical filters and had two 13 mm. MG 131 machine guns in place of the MG 17 weapons. These guns necessitated large fairings over the breech blocks which were responsible for the Bf 109G's other nickname; the *Beule* or "Bump".

The Bf 109G-2 was similar to the G-1 but had no pressurized cabin and was intended for the fighter-reconnaissance rôle. It carried two MG 17 machine guns over the engine cowling, and had provision for two *rearward* firing guns of similar type to be mounted in a ventral pack. The Bf 109G-2/R1 was a fighter bomber with provision for an under-fuselage bomb and two underwing drop tanks. An unusual feature was an auxiliary jettisionable undercarriage leg under the rear fuselage to provide the necessary ground clearance. The Bf 109G-3 was similar to the G-1, but had FuG 16 Z radio in place of FuG 7A; and the G-4 was an unpressurized version of the G-3.

The Bf 109G-5 introduced the more powerful DB 605 D engine which had a larger supercharger and MW-50 power boosting. This involved the injection into the cylinders of a water-methanol mixture which, when added to 100 octane fuel, increased thermal efficiency and boosted power to a maximum of 1,800 h.p. The mixture was carried in a jettisonable under-fuselage tank and could be switched on and off at will by means of a push button in the



The Gustav runs up in its wooded dispersal point; this sequence was photographed in Russia during the summer battles of 1943. This illustration demonstrates effectively many of the characteristics of the Bf 109G series, including the narrow-track undercarriage, the streamlined air intake on the port side of the cowling, the shallow underwing radiators; and the popular spiral spinner motif, carried both as decoration and as an attempt to put air-gunners off their aim.

cockpit. Armament of the Bf 109G-5 was standardised as two 13 mm. MG 131 machine guns and an engine-mounted 20 mm. MG 151/20 cannon. The Bf 109G-5/R2 introduced a new taller wooden tail fin and rudder plus a lengthened tailwheel with which it was hoped to cure the aircraft's take-off swing. This was found to be heavier than the standard duralanium structure, and to counteract this a weight was bolted under the oil tank bracket.

The most important model of the "Gustav" was the Bf 109G-6, which could be powered by the DB 605 AM, AS, ASB, ASD or ASM engine. Armament comprised two MG 131 machine guns, an engine-mounted 30 mm. MK 108 cannon and two underwing 20 mm. MG 151/20 cannons. This combination of heavy armament was most effective against bombers but the effect on its manoeuvrability was disastrous. The Bf 109G-6/U4 could carry two 30 mm. MK 108 cannons underwing in place of the MG 151/20's and the G-6/U4N had a special rotating antenna aft of the cockpit housed under a transparent blister.

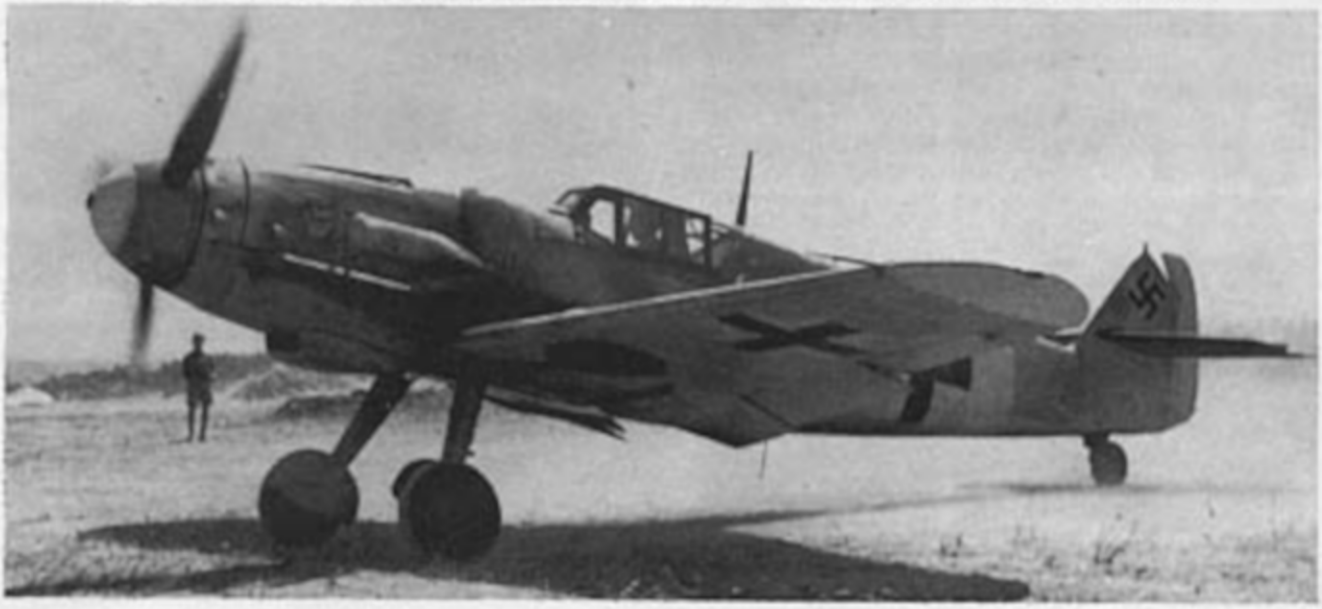
The Bf 109G-6/R1 was a fighter bomber variant carrying a 550 lb. SC 250 or 1,100 lb. SC 500 bomb on an under-fuselage rack. The G-6/R2 carried a 210 mm. WGr 21 "*Dodel*" rocket tube under each wing in place of the cannon gondolas. The G-6/R2 Trop was similar, but equipped with tropical filters. The Bf 109G-7 was a proposed variant employing all the detailed improvements introduced by the G-6, but was abandoned in favour of the much faster G-10 without reaching the production stage.

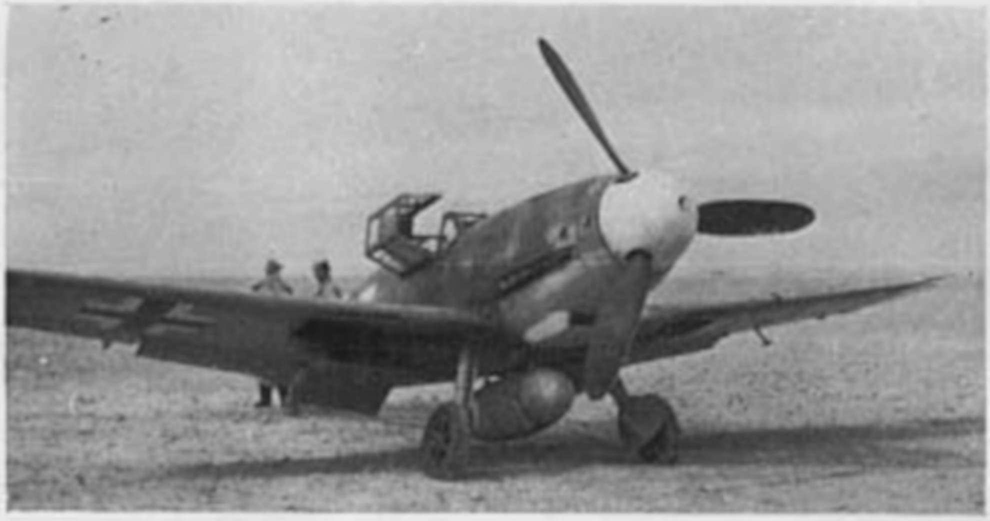
CONSTRUCTION OF THE Bf 109G-6

The wings were an all metal structure with a single main spar built up of "T" section flanges and sheet web reinforcement at the intersection of the ribs. The main spar was located 45% back from the leading edge to permit the main wheels to retract into their wells ahead of it. Stressed-skin flush riveted light alloy covering was employed together with fabric covered light alloy ailerons. The wing panels were attached to the fuselage at three points, the forward point comprising a steel forging which also housed the undercarriage leg and the base of the engine mounting. Handley Page-type trailing edge slotted flaps in four sections were employed, and the leading edges were also slotted.

The fuselage was an all-metal oval section structure of monocoque type with top hat section transverse frames and "Z" section stringers, the whole covered with flush riveted stressed skin. The engine was a twelve cylinder 60° inverted Vee liquid cooled in-line engine built by the Daimler Benz A.G. Designated DB 605 A-1 the engine delivered 1,475 h.p. for take off

A Bf 109G-1 Trop. of I/JG 51 "Molders" *on the South Russian Front. The penetrating dust which characterised Russian airfields in summer forced the installation of sand filters on aircraft in this theatre. Note the* Geschwader *insignia on the cowling.*





Except for the G-1 Tropical, all G-variants up to the G-4 retained the original cowling armament of 7·9 mm. MG 17 guns, and thus the unbroken cowling contours of the F-series. This aircraft served with I/JG 77 "Herzas" *in the Mediterranean; it carries the "L-England" insignia under the windshield, although this is almost obscured by exhaust discolouration.*

and drove a V.D.M. electrically operated constant speed three bladed airscrew. Armament comprised two 13 mm. MG 131 machine guns with 300 r.p.g. mounted above the engine cowling, synchronised to fire through the airscrew, an engine mounted 20 mm. MG 151/20 cannon with 150 r.p.g. firing through the spinner, and two 20 mm. MG 151/20 cannons with 120 r.p.g. in underwing gondolas. The tail unit was a mixed metal and plastic cantilever structure with stressed skin covering on the fixed surfaces and fabric covered rudder and elevators. The undercarriage was of the outward retracting type, the main wheels being stowed within the wings ahead of the main spar when in a fully retracted position. The tailwheel was of the semi-retractable type.

GUSTAVS FOR THE LUFTWAFFE

The first *Luftwaffe* unit to receive the "Gustav" as it was instantly dubbed, was the newly formed 11th *Staffel* of JG 2—the famous *Richthofen Geschwader*. 11./JG 2 was established in late May 1942 from a nucleus provided by 1 *Staffel*, and equipped with the Bf 109G-1 as a special high altitude interceptor unit.

The service debut of the Gustav was marked by several reports of aircraft lost in mysterious circumstances. During a return flight from a strike over Cairo on 30th September 1942, Hptm. Hans Joachim Marseille, *Staffelkapitän* of 3./JG 27 reported to his wingman that smoke was seeping into the cockpit of his Bf 109G. After a few moments, this intensified until finally Marseille was forced to bale out. In so doing, he struck the tailplane and was knocked unconscious, never having a chance to pull his ripcord. A few days later, 3./JG 1 reported the loss of a Gustav in similar circumstances, but this time the pilot was more fortunate, parachuting to safety.

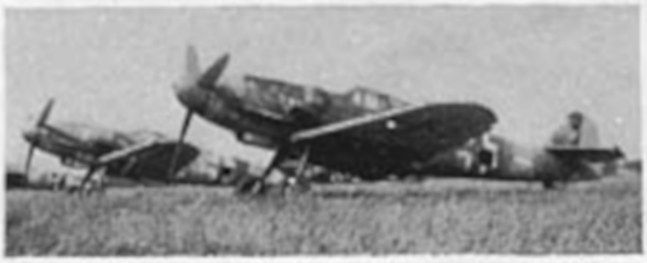
(At this point it seems apposite to mention various other criticisms of the Gustav. The constant modifications and additions made to the aircraft's systems and armament did have a serious effect on its flying characteristics; and the weak undercarriage of narrow track continued to cause landing accidents with alarming regularity. However, the aircraft was still preferred by many veteran fighter pilots to the later aircraft reaching the *Gruppen* in the last months of the war; and it is the opinion of many ex-Gustav pilots that it is gross exaggeration to call the aircraft a "killer". Such published claims as those which state that the late variants could only be flown in the landing regime at full throttle were dismissed by ex-Messerschmitt test pilot Karl Baur as utterly absurd).

By the end of 1942, the Gustav had virtually replaced the earlier Bf 109F model, and this, together with the Fw 190A series, formed the complete equipment of the *Luftwaffe Tagjagdflieger* (day fighter force). In the spring of 1943, daylight raids by unescorted B-17 and B-24 bombers of the U.S.A.A.F. on the German homeland had begun to reached damaging proportions. As an attempt to combat these raids, III./JG 54 was withdrawn from the Eastern Front on 27th March 1943 and a new *Geschwader*, designated JG 11 was formed from a nucleus provided by I and III./JG 1 on 1st April 1943.

Many different methods of attacking the bombers were evolved and several novel armaments were tested. One such was the attaching of a 250 kg. bomb under the fuselage of the Gustav. After climbing

Early model Bf 109G's in the Mediterranean. Both the Gustav *and the Focke-Wulf Fw 190A were rushed into service in North Africa in late 1942/early 1943 in an attempt to stave off the defeat of the* Afrika Korps; *but it was the first of many* Luftwaffe *efforts which failed because forces were "too little, too late".*

The difference in tail outline and rudder hinge line between early and late G-variants of the 109 series is immediately apparent if these G-14's are compared with the early marks illustrated on this page.



A crashed G-1 Trop., probably of the second Staffel, *JG 27* "Afrika", *being examined by R.A.F. personnel in Tunisia.* (Photo: Imperial War Museum. CNA 522).

A G-1 of III/JG 53 "Pik As" *(Ace of Spades) roughly snow-camouflaged in the Russian winter.* (Photo: the publishers)

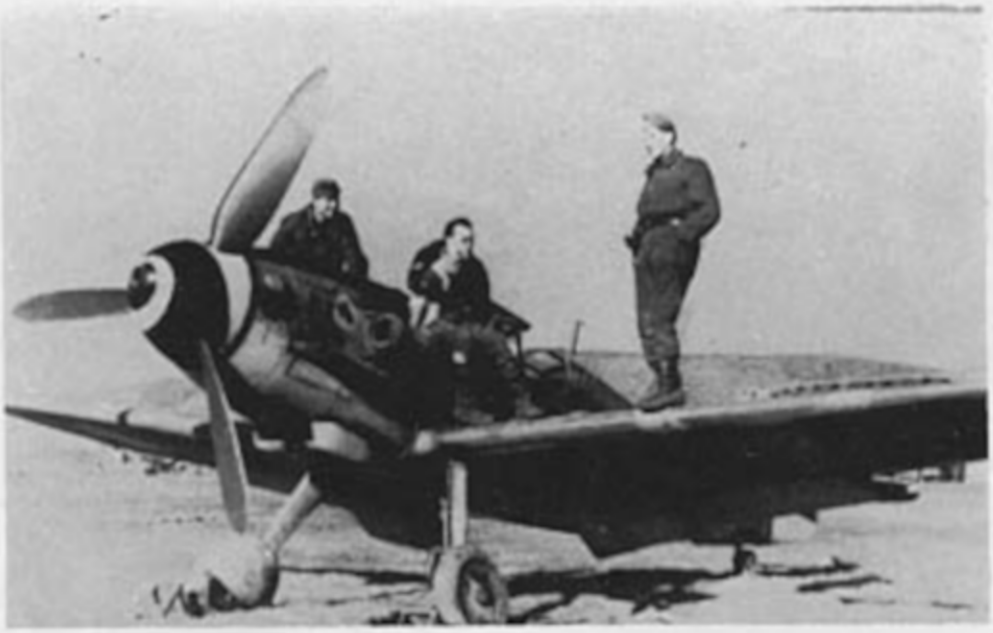
above the attacking formation, the defending fighter would drop its bomb (which was equipped with a time fuse) on to the bombers. This method of attack was first tested by its originator, Lt. Heinz Knocke of 5./JG 1 who destroyed a B-17 attacking Wilhelmshaven on 22nd March 1943. Other novel armaments included heavy calibre cannon, and 210 mm. rocket tubes. These last were used operationally by *Staffeln* of JG 1, JG 3 and JG 26.

In the early hours of 5th July 1943, German Panzer Divisions attacked Russian armour in the Orel-Bielgorod area under the code name of *Operation Zitadelle*. Virtually all the *Luftwaffe's* ground attack units were thrown into the assault, which was to be the last major German offensive in the east, and these were supported by eight *Jagdgruppen*. They were II and III./JG 3, I, III and IV./JG 51, I and III./JG 52 and III./JG 54: the JG 3 and 52 *Gruppen* being equipped with the Bf 109G. On the first day the *Jagdflieger* scored 432 victories of which II./JG 3 claimed 77 including 62 bombers. During the morning, the *Gruppe* shot down 31 out of a Russian unit of 46 machines; the top scorer of the unit being Oblt. Joachim Kirschner with 9, giving him a total of 157 victories. The *Gruppen Kommandeur*, Maj. Kurt Brändle claimed 5, making his total 151 and other pilots to score included Oblt. Bitsch with 6, Oblt. Lucas with 5 and Hptm. Lemke with 4.

The third *Gruppe* of JG 3 claimed 38 victories of which 3 were shot down by Maj. Wolfgang Ewald, the *Gruppen Kommandeur*. III./JG 52 claimed 35 victories including 12 by Hptm. Wiese, 11 by Oblt. Krupinski and 4 by Lt. Korts. Also attached to JG 52 was a special Croatian *Staffel* under Obstlt. Fanjo Dzal (13 victories) designated 15./JG 52. Total German losses on the first day of *Zitadelle* were twenty-six.

In the meantime the Gustav-equipped *Gruppen* of *Luftflotte 2* were under severe pressure in Southern Italy and Sicily. These units were Stab, I and III./JG 27, II./JG 51, Stab, I, II and III./JG 53 and Stab, I, II and III./JG 77. On the 15th July 1943 the recently reformed 8./JG 27 under Oblt. Wolf Ettel, operating from Brindisi in Italy attacked Allied positions in the Catania area. For this operation the Gustavs were equipped with long range tanks. During the flight contact was made north of Mount Etna with some Spitfires, one of which fell to the well-aimed shots of Oblt. Ettel. Next day the unit took off on an *Alarmstart* against 48 four-engined bombers with

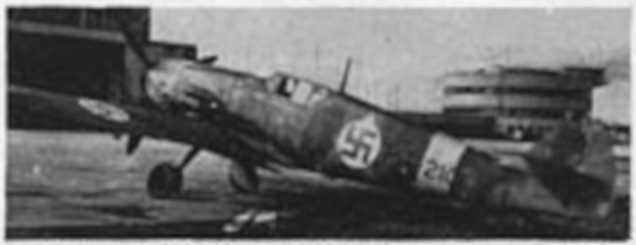
These three photographs show various marking styles employed by the Rumanian Air Force on its Bf 109G's, which operated both on the Russian Front and in defence of the oil refineries at Ploesti. The bottom picture shows aircraft in Russia, with an Me 323 in the background.



A Bf 109G-1 Trop. of the 102/2 Fighter Squadron of the Hungarian Air Force; note the emblem ahead of the air intake filter. On the original print it is possible to distinguish both the early triangular flash and the later cross insignias under the port wing.
(Photo: Julius Gaal via Gruppe 66)

strong fighter escort. During the battle which took place, two bombers and a Spitfire fell to Ettel giving him a total of 124 victories. On 17th July the Bf 109G's of III./JG 27 were detailed to attack British positions in the Catania area, and during the low level attack that ensued, Oblt. Ettel was shot down and killed.

Operating in very different climes from Italy and Sicily was Obstlt. Gunther Scholz's *Eismeerjagdgeschwader*, JG 5. Based in Norway and Finland, the four Gruppen of JG 5 were all equipped with the Bf 109G-2 and G-6, although IV./JG 5 in Norway began to receive a few Fw 190A's in September 1943. I and II *Gruppen* were withdrawn to Northern Russia in January 1944 and then to the Western Front following the Allied invasion. Both units were eventually disbanded, personnel being transferred to the newly formed JG 4 and 6. This left III./JG 5 to cover the withdrawal of German forces from Finland, and IV./JG 5 to defend Norway and Denmark in company with IV./ZG 26 and JG 102—a fighter-training unit with Bf 109G-12's. In February 1945, IV./ZG 26 was redesignated II./JG 5, the unit exchanging its Me 410's for Bf 109G's, but few operations were undertaken.



MT 210, one of the thirty Bf 109G-2's supplied to Finland and operated against the Soviet forces with considerable success. The Finnish Air Force also received 132 of the G-6 variant; and nine Finns scored more than thirty victories. The top scorers were E. I. Juutulainen (94), Hasse Wind (78) and Eino Luukkanen (54). This photograph was taken at Malmi-Helsinki, and shows an aircraft of HleLv 34. (Photo: Christopher F. Shores)

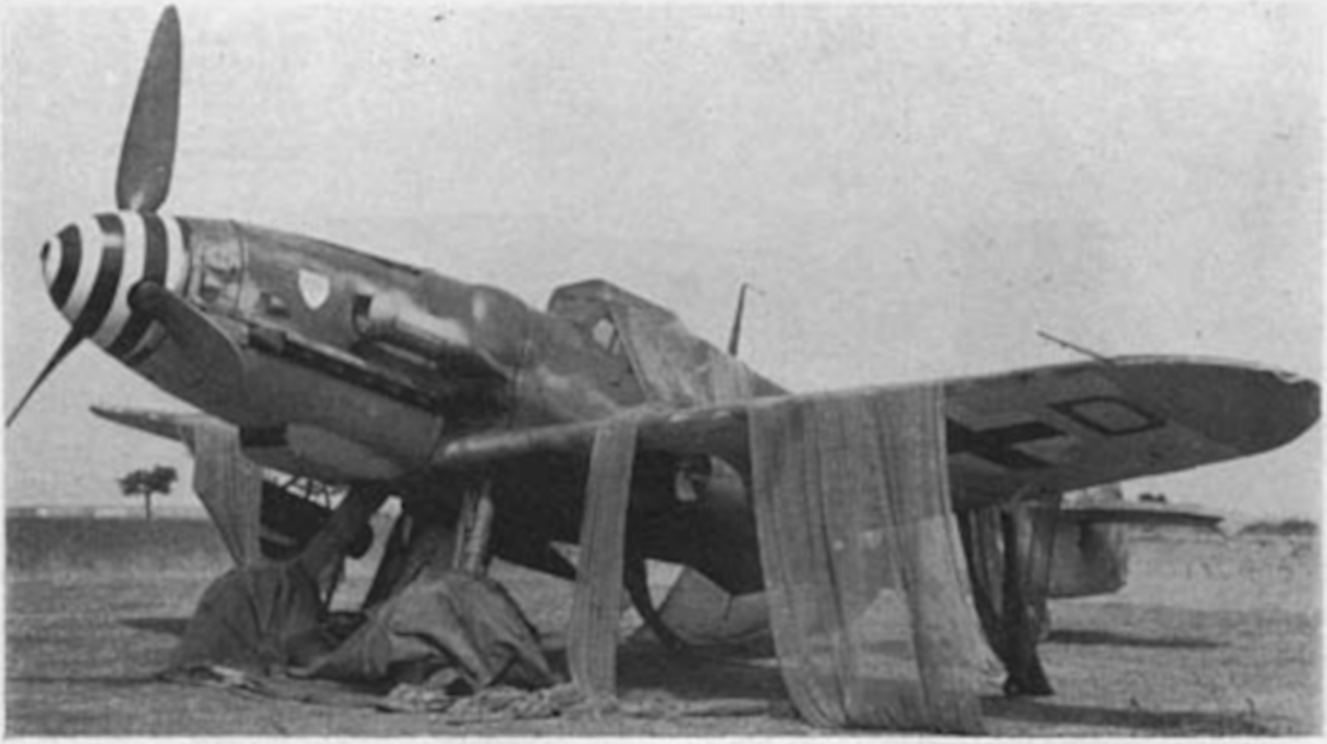
Jagdgeschwader 5 "Eismeer" *operated in Finland and on the North Russian Front throughout the entire Eastern campaign. Here, a G-2 of that unit is being refuelled on the airfield at Petsamo, Finland, in 1943.*
(Photo: Flugkapitän Neumann via Gruppe 66)

Raids by U.S.A.A.F. aircraft were steadily increasing, and losses by units of the *Reichsverteidigung* to the guns of the heavy bombers were beginning to increase alarmingly. On 14th May 1943, III./JG 54 lost eight Bf 109G's plus a further seven on the following day. This occurred during an interception of 300 four-engined bombers over the German Bight when the *Gruppe* lost one of its leading *Ritterkreuzträger*, Lt. Friedrich Rupp (53 victories). Losses were not always so severe however. During an attack on a B-17 formation on 28th July 1943, Fw. Fest of 5./JG 11 destroyed three Fortresses with a direct hit from a 250 kg. bomb. Of the 22 U.S.A.A.F. bombers lost on this date, Hptm. Gunther Specht of II./JG 11 claimed half.

On 1st August 1943, 177 B-24 Liberators from the U.S. 8th and 9th Air Forces left their North African bases to attack Rumanian oilfields at Ploesti. I./JG 4 under Hptm. Hans Hahn based at Mitzil, 20 miles east of Ploesti, attacked the bombers with its Bf 109G's. I./JG 4 was strengthed by elements of the Royal Bulgarian Fighter Regiment under Hptm. Toma, but these units were equipped in the main with the antiquated Avia B-534 biplane. During the return flight, the American formation was attacked by elements of Oblt. Alfred Burk's recently-formed IV./JG 27 based at Kalamaki in Greece. The U.S.A.A.F. lost fifty-four aircraft of which IV./JG 27 claimed four.

Late in July 1943, five further *Jagdgruppen* were withdrawn from bases in Italy and Southern Russia to Germany to supplement the aircraft of JG 1, JG 2, JG 11, JG 26, III./JG 54 and ZG 26 then engaged in the Defence of the Fatherland. II./JG 27 under Hptm. Werner Schroer was transferred from Vibo-Valentia in Italy to Weisbaden-Erbenheim, II./JG 51 under Hptm. Karl Rommelt from Sardinia to Neubiberg near Munich and the entire *Jagdgeschwader 3* under Obstlt. Wolf-Dietrich Wilcke from Southern Russia.

These units were to prove their worth when the U.S.A.A.F. launched one of its heaviest raids up to that time on 17th August 1943 against Schweinfurt and Regensburg. 376 B-17's and B-24's were dispatched of which 60 were shot down and a further 100 severely damaged. During a second attack on Schweinfurt (important for its ball-bearing factories)



Fine study of a Bf 109G-6/R2 Trop. of 9/JG 3 "Udet" *in Russia, summer 1943. The 21 cm. "Dodel" rocket tubes, used by JG 1 and JG 26* "Schlageter" *against Allied bombers on the Western Front, are believed to have been occasionally employed as ground support weapons by JG 3 in the East.*

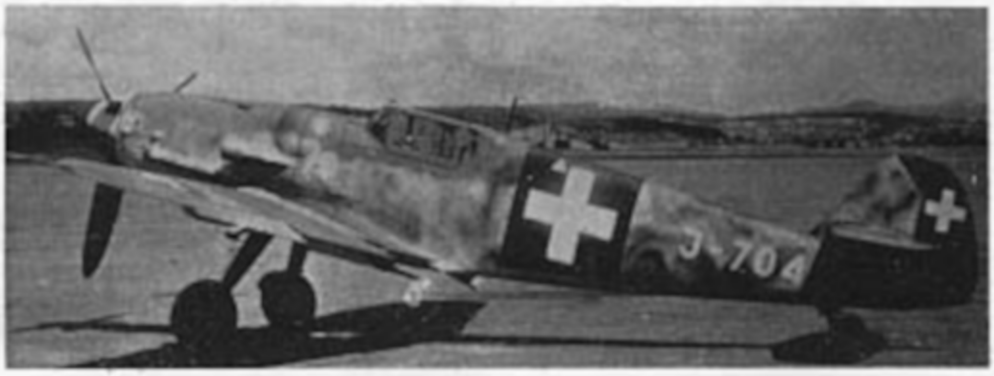
on 14th October 1943, the U.S.A.A.F. lost a further 60 B-17 Fortresses out of 291 dispatched.

On 21st July 1943, two new *Gruppen*, designated JGr 25 and JGr 50 were established under Maj. Herbert Ihlefeld and Maj. Hermann Graf respectively. These were equipped with specially boosted Bf 109G's to combat raids by R.A.F. Mosquitos which were roaming virtually unchallenged over the German homeland. Even these machines couldn't catch the "Mossie" and after very limited successes, both *Gruppen* were disbanded on 1st December 1943.

On 3rd November 1943, U.S.A.A.F. B-26 Marauders with a strong fighter escort attacked Amsterdam. II./JG 3 under Maj. Kurt Brändle was immediately scrambled to intercept, but by the time a favourable attacking position was reached, the enemy formation was making its return flight over the Channel. Maj. Brändle, who was flying the fastest machine in the *Gruppe*, gave chase. He never returned. Victor over 180 enemy pilots, Maj. Brändle was presumed shot down by the fighter escort.

On 27th June 1943, a new *Jagdgeschwader*, designated JG 300, was formed from *Versuchskommando Herrmann*, under Maj. Hajo Herrmann, a former *Gruppen Kommandeur* of III./KG 30 which had played such a prominent part in operations against the ill-fated PQ 17 convoy. JG 300 was a special unit which participated in *Wilde Sau* tactics, a form of free-lance night fighting with the aid of searchlights. Under this system, specially modified Bf 109G-6/U4N and Fw 190A-5/U2N single seat fighters with *Naxos Z* warning and homing receivers with a range of 30 miles were employed in close co-operation with searchlight teams rather than ground control. Sometimes a system of pyrotechnic and other visual signals were used to guide the aircraft to the bombers. The radar, which was installed aft of the cockpit of the fighter, merely indicated direction, and not distance.

A 109G-5 on a Russian airstrip, summer 1943.



J-704, Werke Nr.163245, a Bf 109G-6 of Fliegerkompagnie *7 of the Swiss Air Force. Switzerland took delivery of twelve* Gustavs *on May 28th 1944; the deal was concluded despite urgent need of fighters for the* Luftwaffe, *because the Swiss government agreed in return to destroy a Bf 110G night fighter of III/NJG 6 which had inadvertently crash-landed in Switzerland with the latest* Lichtenstein *SN-2 and* Naxos *equipment on board.*
(Photo: Werner Gysin Jr.)

KEY TO COLOUR ILLUSTRATIONS

1. Bf 109G-6 of 8th Staffel, JG 77 *"Herzas"*; Leningrad, Russia, September 1942. 'A' shows insignia of JG 77 *"Herzas"*.
2. Bf 109G-1 of 1st Staffel, JG 5 *"Eismeer"*; Finland, 1943. Aircraft of Lt. Ehrler.
3. Bf 109G-2 of 8th Staffel, JG 5 *"Eismeer"*; Finland, March 1943. Aircraft of Oberfeldwebel Schulz. 'B' and 'C' show the insignia of the 8th Staffel and III Gruppe of JG 5, both of which were applied beneath the cockpit.
4. Bf 109G-6 of 12th Staffel, JG 5 *"Eismeer"*; Petsamo, Finland, spring 1943.
5. Bf 109G-6/R2 Trop. of 6th Staffel, JG 3 *"Udet"*; home defence, Germany, 1944. 'D' shows the insignia of JG 3 *"Udet"*.
6. Bf 109G-6 of 7th Staffel, JG 53 *"Pik As"*; Russia, winter 1943. 'E' shows insignia of JG 53 *"Pik As"*; it also appeared with the outline diamond painted as a broken line.
7. Bf 109G-2 Trop. of I Gruppe, JG 27 *"Afrika"*; Daba, Egypt, 1942.
8. Bf 109G-6 of commanding officer, I Gruppe, JG 27 *"Afrika"*; Tunisia, spring 1943. 'F' shows insignia of I Gruppe, JG 27 which appeared on this aircraft and that shown in the previous illustration.
9. Bf 109G-1 Trop. of 3rd Staffel, JG 51 *"Mölders"*; Southern Russia, early summer 1943. 'G' shows insignia of JG 51 *"Molders"* prior to June 1944.
10. Bf 109G-2 Trop. of Gruppe adjutant, I Gruppe, JG 77 *"Herzas"*; Sicily, early summer 1943. 'H' shows the insignia of I Gruppe, JG 77; this unit was previously the operational training Gruppe, I/Lehrgeschwader 2, and retained its insignia on being re-mustered as I/JG 77.

During the summer nights, the Geschwader proved so successful that a further two *Wilde Sau* units were formed, designated JG 301 and JG 302. These three united to form *30 Jagddivision* and Herrmann, now an Oberstleutnant, became the commander. The *Geschwader* under his control were:—

- JG 300 under Obstlt. Kurt Kettner at Bonn-Hangelar.
- JG 301 under Maj. Helmut Weinreich at Neubiberg-bei-München.
- JG 302 under Maj. Manfred Mossinger at Doberitz-bei-Berlin.

Only a *Gruppe* in each *Geschwader* possessed its own aircraft, the other *Gruppen* sharing their aircraft with a day fighter group which was based on the same airfield, examples being II./JG 300 with III./JG 11, I./JG 302 with II./JG 27. This duplication of operations meant that the aircraft were constantly in action, and as can be imagined, servicability rates were extremely low. With the onset of winter, losses rose alarmingly and the three *Geschwader* were re-trained as conventional day fighter units.

Meanwhile the day fighter *Geschwader* were being hard pressed by long range American fighters ranging freely over Germany. Combats against often superior numbers resulted in the loss of many of the *Luftwaffe's* top *Jagdflieger*—perhaps one of the most notable being the popular *Kommodore* of JG 3, Obst. Wolf-Dietrich Wilcke, shot down and killed by Mustangs on 23rd March 1944 after 162 victories. One of the most successful pilots on the Western front was Oberfeldwebel Heinz Bartells of IV./JG 27 who from April to June, accounted for twenty-two P-47, P-51 and Spitfire aircraft.

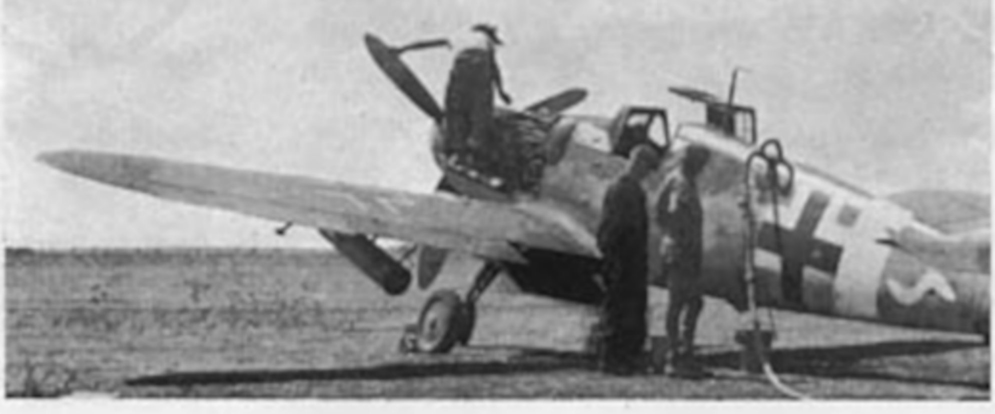
LATER GUSTAVS AND THE Bf 109K

The Messerschmitt Bf 109G-8 was a high-speed reconnaissance aircraft which employed the older type tail fin and rudder assembly. The machine, which carried reduced armament, had an Rb 12·5/7 or Rb 32/7 camera installed in the fuselage. The aircraft entered service late in 1943 with many of the *Nah Aufklarungsgruppen*. One of the most important of these was NAGr 13 which, based on the Channel Coast, was equipped with a mixed bag of Bf 109G-8's and Fw 190A's.

The fastest of all Gustavs was the Bf 109G-10 which was powered by the DB 605 D engine with MW-50 water-methanol injection. This variant could attain 428 m.p.h. at 25,000 ft. and could reach an altitude of 20,000 ft. in 6 minutes. Endurance and range were however reduced to 55 minutes and 360 miles respectively. Armament was normally restricted to two 13 mm. MG 131 machine guns and an optional 30 mm. MK 108 cannon firing through the spinner. The Bf 109G-10/U4 carried two MK 108 cannons in a belly tray which could be replaced by a non-jettisonable fuel tank known as the *Irmer Behalter*. The Bf 109G-10/R2 and R6 featured the taller wooden tail assembly and lengthened tailwheel plus FuG 25a I.F.F. radio equipment. Another feature of these variants was the "Galland Hood", a considerably improved canopy with much less framing, retrospectively fitted to several other Gustav variants.

The Bf 109G-12 was a special tandem two seat trainer variant based on the G-1. It was fitted with a second seat for the instructor aft of the normal pilot's position, the whole enclosed under an elongated canopy. Most G-12's were converted by *Luftwaffe* maintenance units and were used by many of the *Schulejagdgeschwader*. These included JG 101, JG 102, JG 104, JG 106, JG 107 and JG 108, many of which became operational at the end of the war in a desperate attempt to stem Allied advances.

The last operational variant of the Gustav was the Bf 109G-14 which was a fighter-bomber similar to the G-6 but fitted with a "Galland Hood". It could be powered by a DB 605 A, AM, AS, ASB, ASD or ASM engine and armament normally comprised one engine-mounted 20 mm. MG 151/20 cannon and two



Refuelling a G-6/R2 of 9/JG 3. Note that a modified form of the 1940-style III Gruppe "double-S" marking is carried on the rear fuselage, although it had officially been superseded by a vertical bar marking in the spring of 1941.

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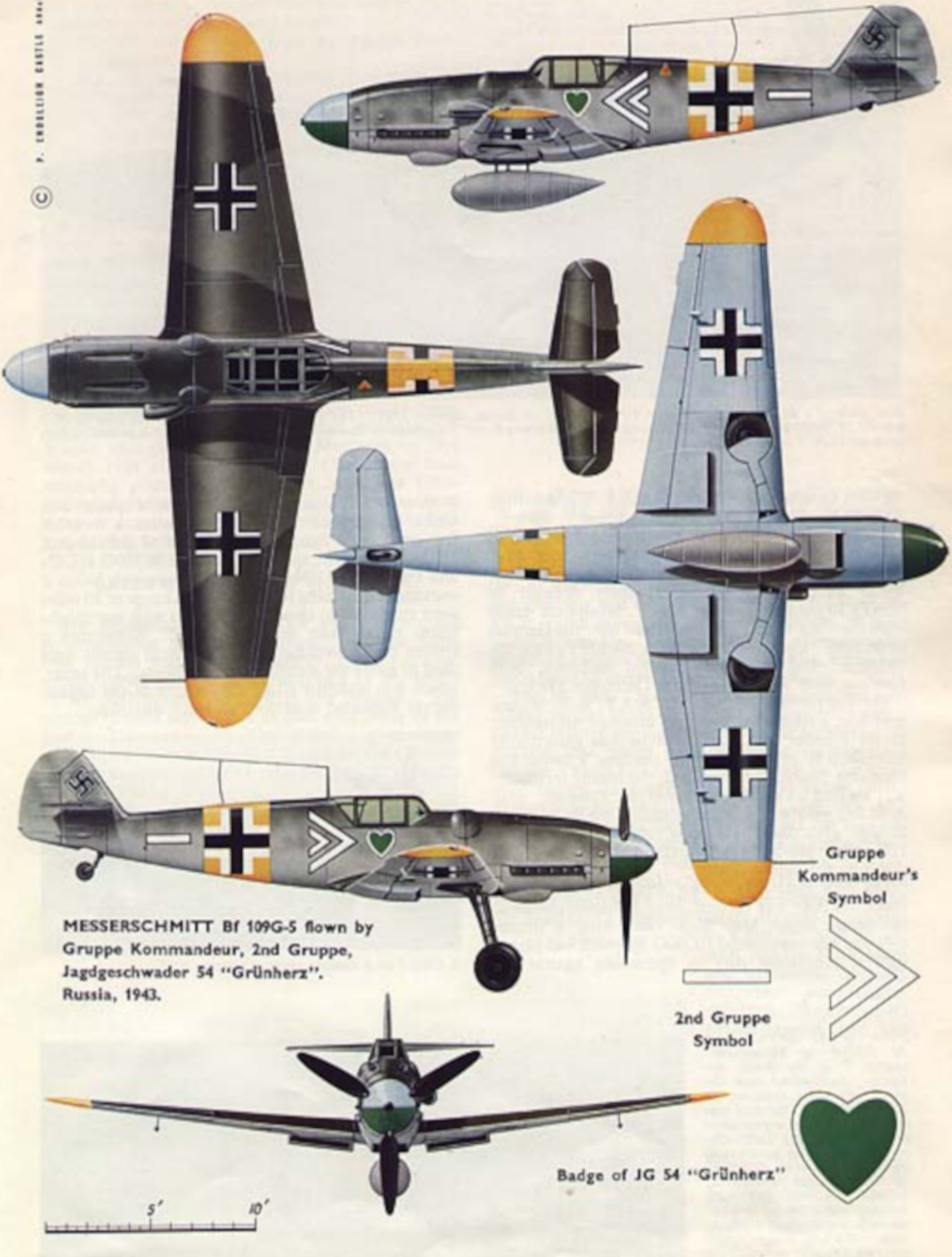
Gruppe Kommandeur's Symbol
2nd Gruppe Symbol
Badge of JG 54 "Grünherz"
5'
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MESSERSCHMITT Bf 109G-5 flown by Gruppe Kommandeur, 2nd Gruppe, Jagdgeschwader 54 "Grünherz". Russia, 1943.

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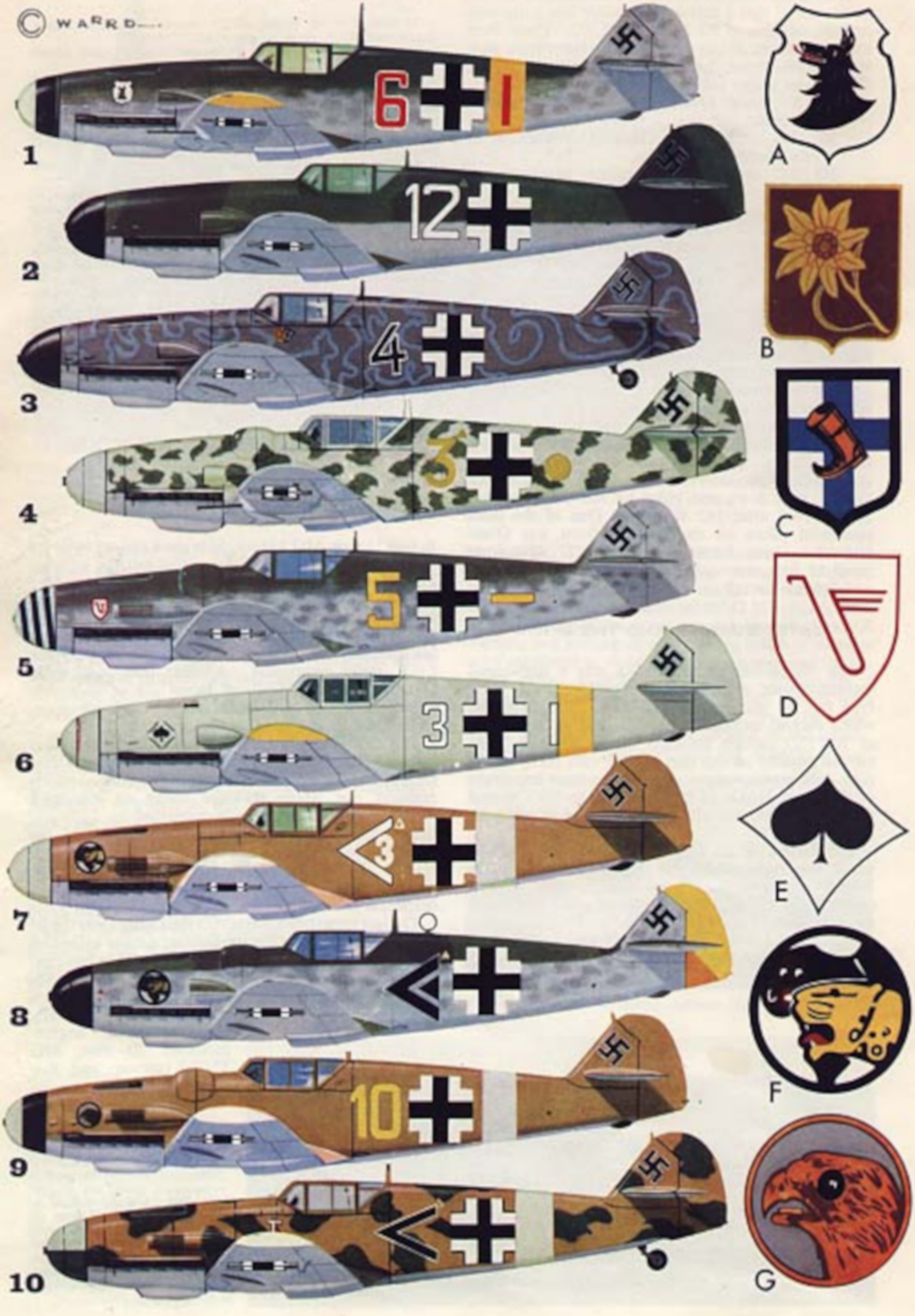
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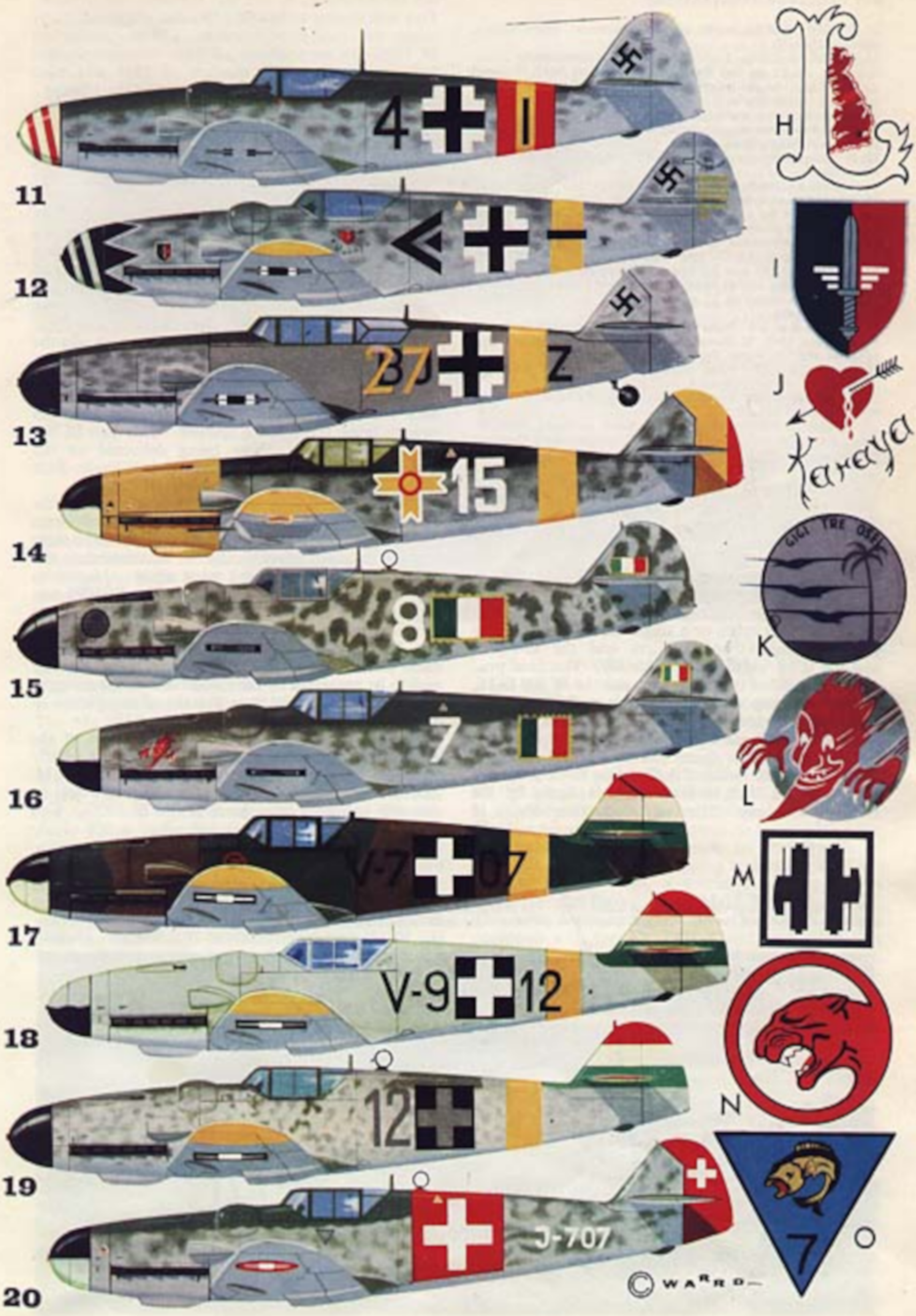
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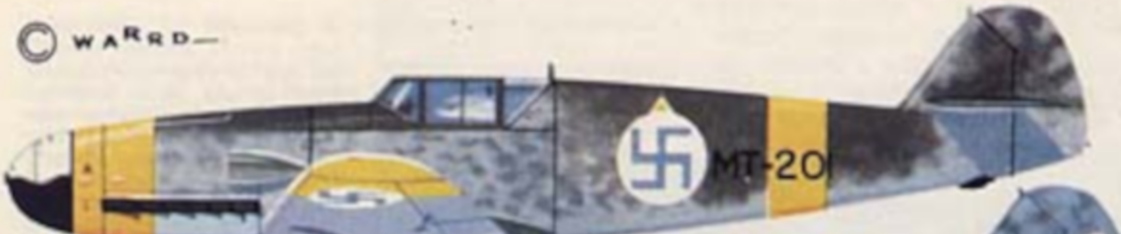

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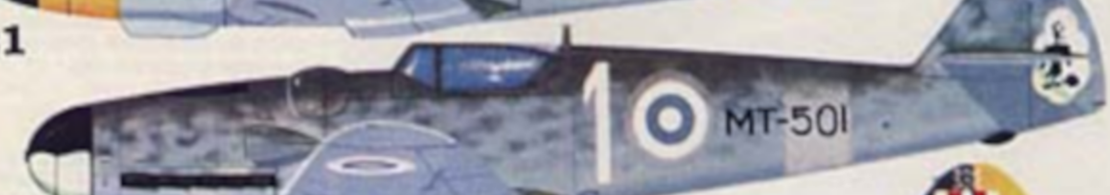

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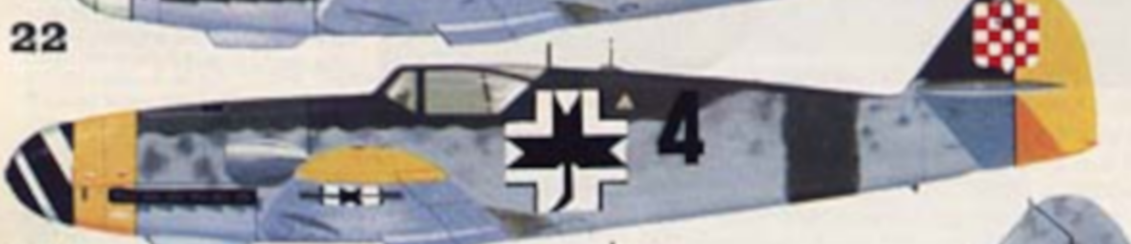

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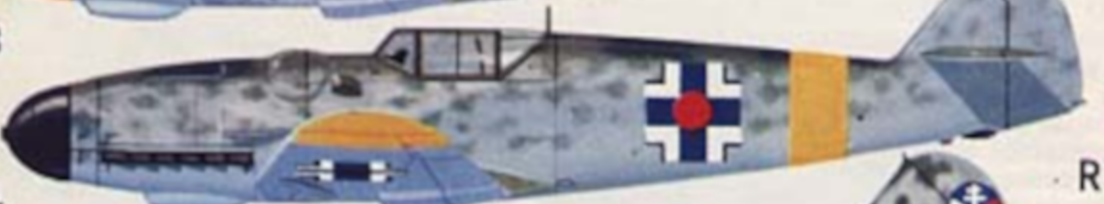

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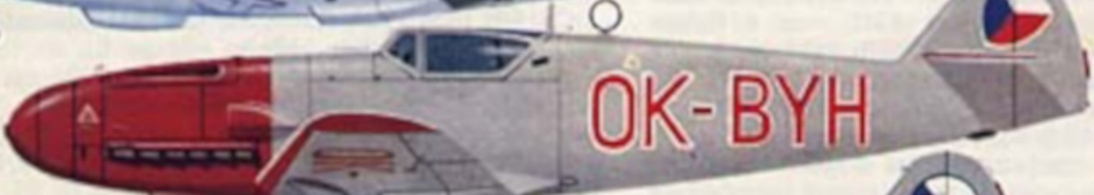

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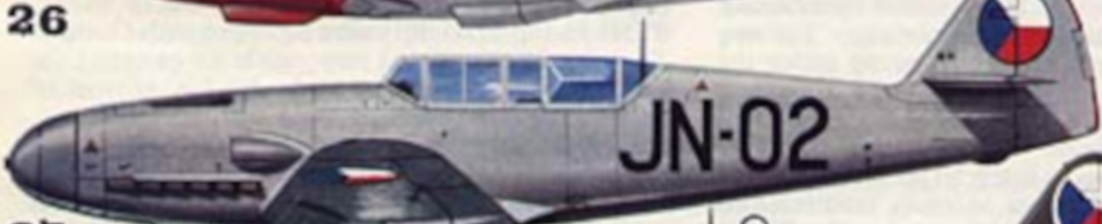

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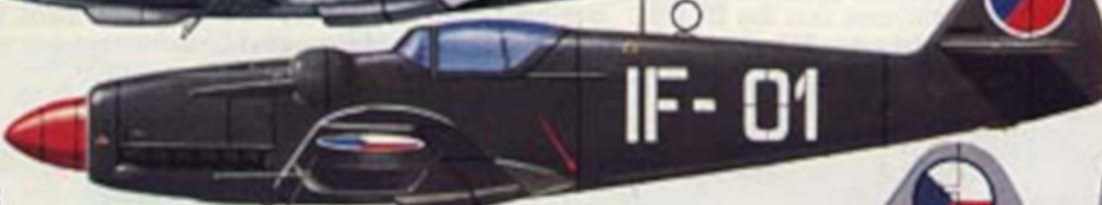

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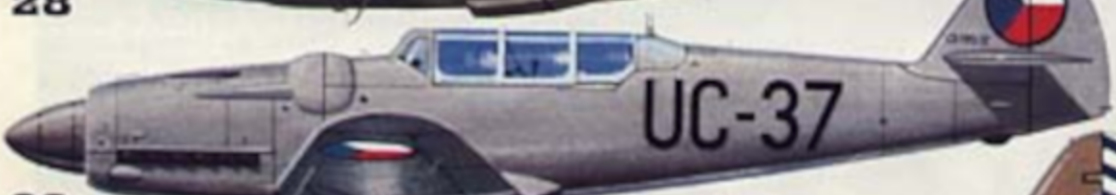

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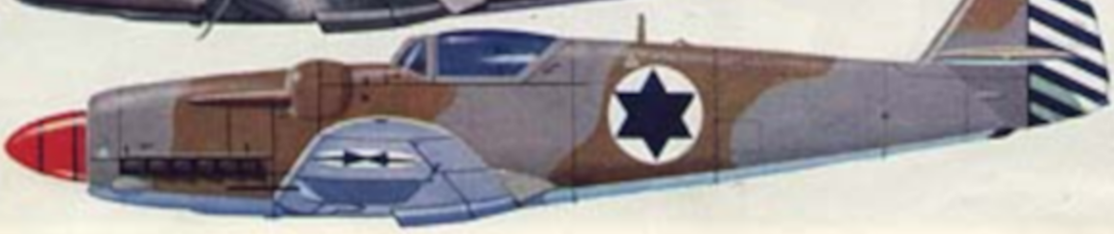

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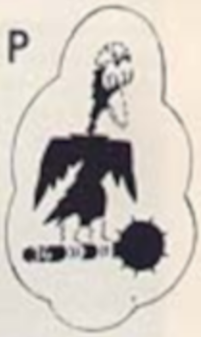

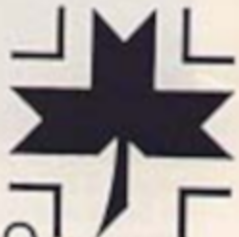

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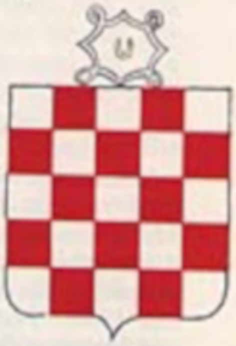

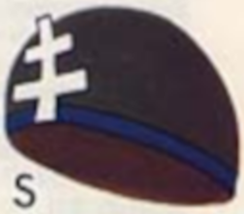

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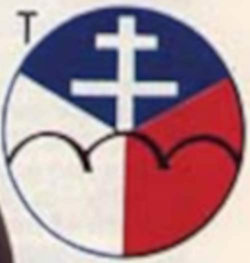

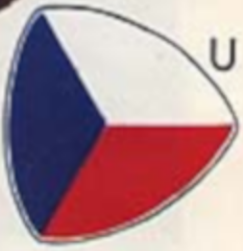

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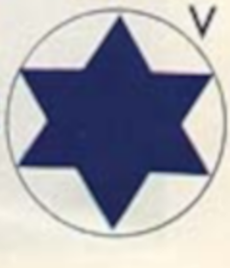


KEY TO COLOUR ILLUSTRATIONS

11. Bf 109G-10 of 8th Staffel, JG 300 *"Herrmann"*; home defence, Germany 1944/45.

12. Bf 109G-14 of Major Erich "Bubi" Hartmann, commanding officer, II Gruppe, JG 52, on East Prussian front in spring 1945. 'I' shows insignia of II/JG 52, carried on cowling; 'J' shows the "Karaya-heart" insignia of the 9th Staffel of the Geschwader, which Hartmann continued to carry after promotion to command of the entire Gruppe. Major Hartmann was the top-scoring German pilot of the war, being credited with 352 victories.

13. Bf 109G-12 two-seat trainer of JG 101; Pau-Nord airfield, France, March 1944.

14. Bf 109G-8 of the Rumanian Air Force; Russia 1943.

15. Bf 109G-6 of II Gruppo, *Aviazione della R.S.I.*; Northern Italy, 1944. 'K' shows the insignia (motto 'Gigi Tre Osei') carried by this machine; it was previously the emblem of the 150 Gruppo, 53 Stormo of the *Regia Aeronautica*, carried by that unit's Macchi C.202s. 'M' shows wing insignia of R.S.I.; black under wings, white above wings.

16. Another Bf 109G-6 of II Gruppo. *Aviazione della R.S.I.* The sub-unit to which this aircraft apparently belonged carried the "Diavoli Rossi" emblem shown as 'L', similar to that of the 6 Stormo of the *Regia Aeronautica*.

17. Bf 109G-6 of 5/1 "Puma" Fighter Group, Hungarian Air Force; Russian front, 1943. 'N' shows insignia of 5/1 "Puma" Fighter Group 1943–44, and 101 "Puma" Fighter Group 1944–45.

18. Bf 109G-6 of 5/1 "Puma" Fighter Group, Hungarian Air Force; Russian front, winter 1943–44.

19. Bf 109G-6 of 101 "Puma" Fighter Group, Hungarian Air Force; home defence, 1944–45.

20. Bf 109G-6, 7th Fighter Squadron, Swiss Air Force, 1944. 'O' shows insignia of 7th Fighter Squadron (*Fliegerkompagnie 7*) carried beneath cockpit.

13 mm. MG 131 machine guns. Provision was made however for two further 20 mm. MG 151/20's, two WGr 21 rocket tubes or a single SC 250 bomb. The G-14/Trop had tropical filters and the G-14/R2 had the taller wooden tail assembly. The final production model of the "G" series was the Bf 109 G-16, which, retaining the original style cockpit canopy, was heavily armoured for the ground attack rôle.

The Bf 109H was a high altitude fighter based on the Bf 109F series; there was no Bf 109I, and the Bf 109J was the German designation for a proposed variant to be built under licence in Spain by the Hispano company. The final production version of the Messerschmitt Bf 109 was therefore the Bf 109K. This was similar to the Bf 109G but employed many minor structural improvements. The pre-production Bf 109K-O's were converted from standard Gustav airframes in the early autumn of 1944 and were powered by the DB 605 D engine with GM-1 boost.

The first production models were the Bf 109K-2 and K-4 which were powered by the 1,500 h.p. DB 605 ASCM/DCM engine with MW-50 injection which boosted power to 2,000 h.p. The K-2 and K-4 both carried an armament of two 15 mm. MG 151 cannons and one 30 mm. MK 103 or MK 108 weapon, the sole difference between the two being that the K-4 had a pressurized cabin. The Bf 109K-6 was similarly powered to the K-2 and K-4, but carried an armament of two 13 mm. MG 131 machine guns mounted above the engine cowling, an engine-mounted 30 mm. MK 103 and two similar weapons in underwing gondolas.

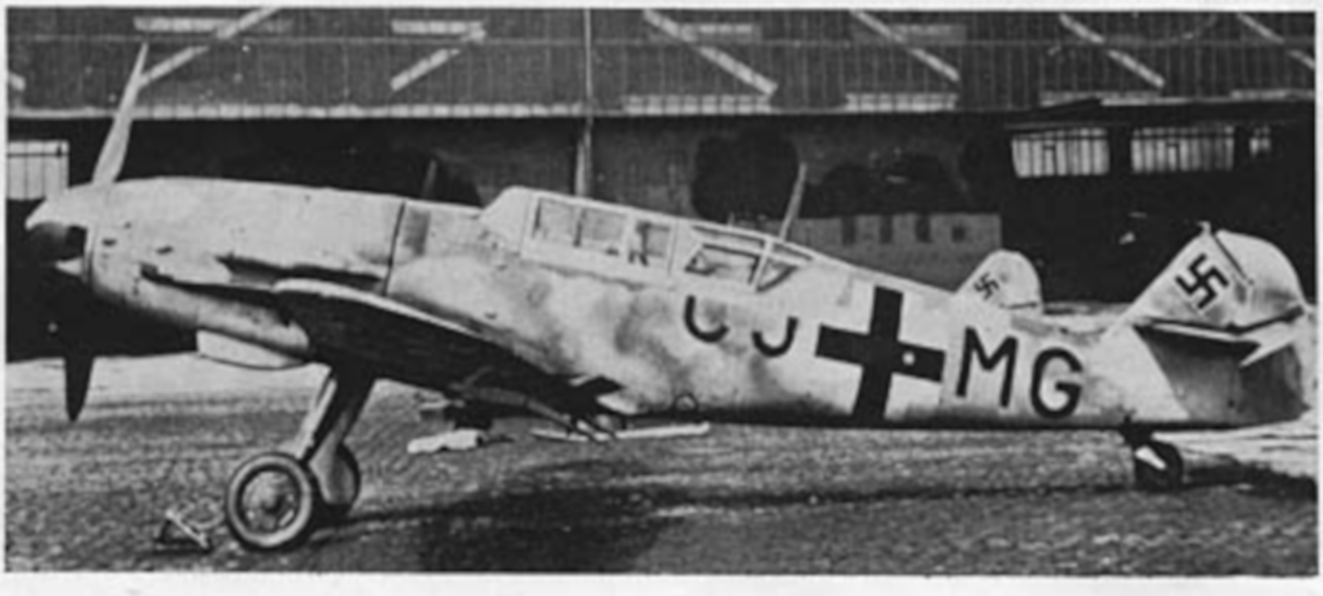
The last production variant of the K series was the Bf 109K-14 which was powered by a DB 605 L engine with MW-50 boosting, giving it a maximum speed of 450 m.p.h. Armament comprised two 13 mm. MG 131 machine guns and one 30 mm. MK 108 cannon firing through the spinner. Only two Bf 109 K-14's saw action, these being delivered to the *Gruppe Stab* of II./JG 52 under Maj. Wilhelm Batz in the late spring of 1945.

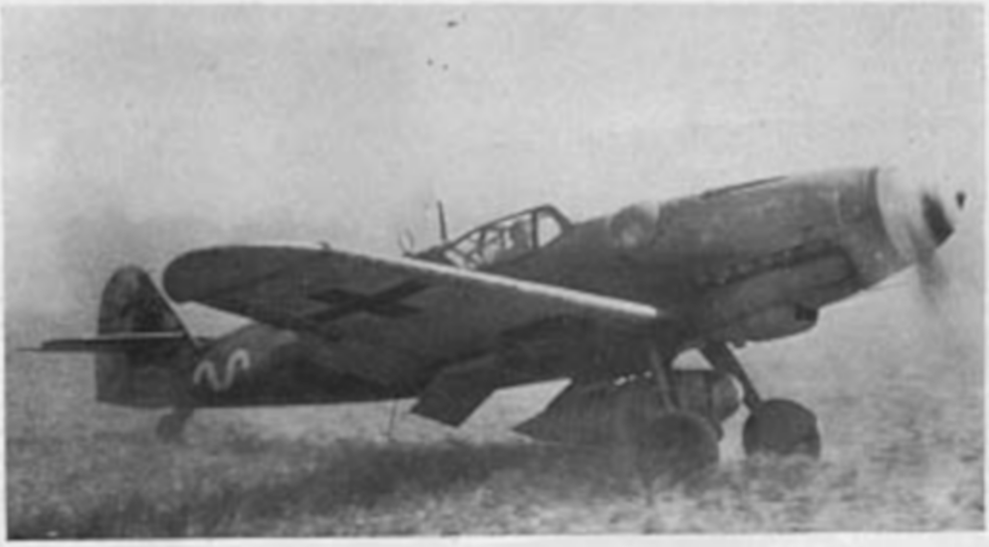
The Bf 109L was a projected variant based on the G series but powered by a 1,750 h.p. Junkers Jumo 213 E engine installed as a "power egg". The fuselage had an enlarged cross section to accommodate the new engine and increased wing span. Maximum speed was estimated as 474 m.p.h. The Bf 109S was another projected variant with blown flaps to improve handling characteristics at low speeds. One prototype, the Bf 109 V 24 VK+AG which had previously been used for trials in connection with the Me 309 was to be converted by the Caudron-Renault concern, and work was within three months of completion at the time of France's liberation.

Perhaps the most interesting development of the Bf 109G airframe was the Bf 109 TL project. Early in 1943, during a conference between the R.L.M. and Messerschmitt it was asked whether it would be possible to install jet engines in the Bf 109G. This

A G-12 two-seat trainer, modified from a G-1 Trop. The instructors' cockpit in the rear had a special bulged canopy to give a degree of forward vision and the two MG 131 weapons in the nose were sometimes retained, as in this case.

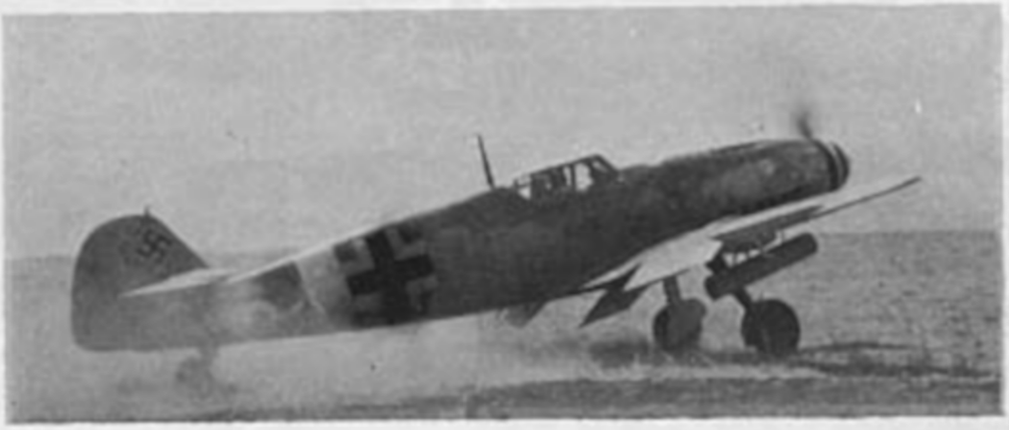
(Photo: Imp. War Mus. HU2827)





A late-model Bf 109G, probably a G-14, displays the tall tail and the clear-view Galland hood of the later variants. Cockpit canopy framing was severely reduced, and the armour plate behind the pilot's head replaced by a frame of bullet-proof glass. Note that although this photograph could not have been taken earlier than 1944, the early-style III Gruppe marking is still carried.

The dust raised by "yellow 2" of the 9th Staffel, JG 3 as it taxis out for take-off explains the use of the tropical filters on the unit's G-6/R2's.



was found to be impractical, but as an alternative, Messerschmitt produced a design study for a jet propelled version of the Me 155B. The Me 155 was a proposed shipboard fighter conversion of the Bf 109G which was never built. The Me 155A, which was projected in November 1942, was a fighter bomber capable of carrying a 2,200 lb. SC 1,000 bomb. The Me 155B was a high altitude fighter based on the Bf 109G with increased span and a DB 628 engine.

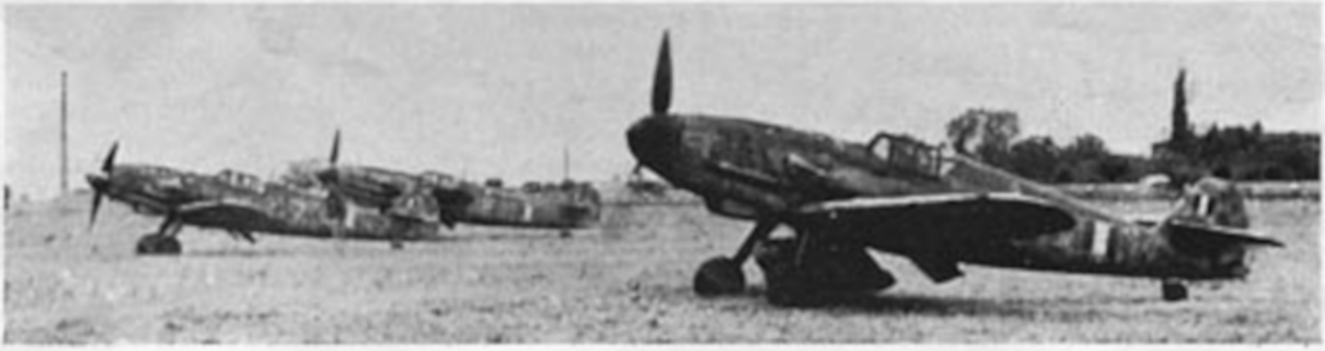
The Me 155B wing was similar to that of the Me 409 project, but for the proposed jet version, the piston engine was to be removed and replaced by auxiliary fuel tanks and a nosewheel undercarriage. The two Jumo 004 B turbo jets were to be slung under the wings in the fashion of the Me 262 and armament would have comprised a 20 mm. MG 151/20 and two 30 mm. MK 103 cannons. The installation of the jet engines also necessitated a much larger fin and rudder assembly—in fact there were so many modifications from the standard Bf 109G airframe that the Bf 109 TL was abandoned in favour of the Me 262 which was already flying.

INVASION AND DEFEAT

On 6th June 1944, the Allies invaded Normandy. The only fighter units able to oppose the invasion were JG 2 and JG 26, but these were quickly strengthened by *Gruppen* from *Luftflotte Reich*. By 20th June, the number of *Jagdgruppen* under *Luftflotte 3* stood at 23 of which 13 (III./JG 1, II./JG 2, II and III./JG 3, I and II./JG 5, II./JG 11, I, III and IV./JG 27, II./JG 53 and I./JG 301) were equipped with Gustavs. The last named unit was responsible for escorting the few desultory operations made by the *Misteln* of KGr 101 against Allied shipping and beacheads.

Early in July 1944, a special *Sturmgruppe* was formed under Hptm. (later Maj.) Wilhelm Moritz. This unit, later designated IV. (Sturm)/JG 3, was equipped with the Fw 190A-8 and each pilot was pledged to bring down an Allied bomber on each mission, by ramming it if necessary. The three other

One of the least-known of the Axis satellite air forces was the Aviazione della R.S.I., *the air arm of the so-called Italian Socialist Republic. This was the fascist element which continued to fight by the side of the German forces after the Armistice of 1943, under the nominal leadership of the impotent Mussolini after his release from his mountain-top prison by Otto Skorzeny's airborne* Waffen-SS *commandos. Here, Messerschmitt Bf 109G-6's prepare for take-off, bearing the R.S.I. fuselage and tail insignia and the* Diavoli Rossi *emblem on the cowling.* (Photo: via Gianni Cattaneo)



Bf 109K-4 of an unknown unit abandoned on an airfield captured by advancing U.S. forces in 1945.

The Rumanian 109G in which an American Colonel "hitched" a ride from Rumania to Italy. When Rumania renounced the Axis, more than 1,000 Allied aircrew were in P.o.W. camps around the country. To establish contact with 15th Air Force authorities in Italy and arrange for repatriation, Lt. Col. James A. Gunn accepted an offer of a lift from Rumanian Air Force Captain Cantacuzino; a veteran pilot credited with 64 victories. They removed the radio from behind the cockpit, painted prominent U.S. markings on the wings and fuselage, and flew to Italy with Gunn cramped behind the pilot's seat. Within 12 hours the first relief force of B-17's took off for Bucharest.
(Photo: courtesy Frank Strnad)

Another abandoned K-4, red 1 of an unidentified home defence unit; the machine carried a single white/red Reichsverteidigung *band round the rear fuselage. Below, a Hungarian Air Force* Gustav *lies on top of an Me 262 in a 1945 aircraft graveyard. It is not generally appreciated that some Hungarian units fought on in defence of the Axis until the last days of the war.*
(Photos: Gruppe 66 Archiv, R. C. Seeley)

Gruppen of JG 3 which were equipped with the Bf 109G-14 were charged with escorting the Fw 190A-8's, the former being known as the *leichte Gruppen*, the latter as the *schwere Gruppen*. Earlier, IV.(Sturm)/JG 3 had been escorted by the Bf 109G's of I./JG 300 and the Fw 190A's of II./JG 300; during IV./JG 3's first operation on 7th July 1944, the units claimed destruction of no less than 58 U.S. heavy bombers.

In the east, the huge Russian armies were on the offensive, pushing back the *Wehrmacht* towards the German homeland. On 23rd August, a coup d'etat took place in Rumania, and this coupled with a surprise Russian offensive led to the withdrawal of German forces. Bf 109G's from I./JG 53 under Maj. Jürgen Harder and II./JG 301 under Hptm. Jacobs, and Bf 110's from IV./NJG 6 under Maj. Lütje defended their airfield of Targsorul-Nou against Rumanian attacks and covered the withdrawl of German forces.

In Hungary, the *Stab* of JG 76 under Maj. Ernst Dullberg was transferred to take over from the *Stab* of JG 77 under Obstlt. Johannes Steinhoff. This flight controlled three *Jagdgruppen;* II./JG 51 under Maj. Rammelt, I./JG 53 under Maj. Hardu and II./JG 52 under Maj. Gerhard Barkhorn. This last named pilot, who was to become the second highest scoring *Luftwaffe* ace, always preferred to fly the Bf 109. Even when he took over command of the Fw 190D-9 equipped *Jagdgeschwader 6* in January 1945, he and his wingman flew Bf 109G-14's—the only such aircraft in the unit.

On 21st October 1944, III./JG 6 under Oblt. Gerlach, which had been formed from I./JG 5 in August, escorted a *Sturmgruppe* of Fw 190's from I./JG 1 to attack a B-17 formation. The *Gruppe* which was then equipped with a mixture of about fifty Bf 109G-10's and G-14's lost twelve of its number owing to frosting of their windscreens, the pilots simply being unable to see ! A little earlier on 25th August, JG 6 suffered severe losses to a formation of P-38 Lightnings of the U.S. 367th Fighter Group.

In October 1944 the Gustav-equipped 10./JG 51 under Lt. Peter Kalden based at Modlin Nowy, north-west of Warsaw, shot down 81 enemy aircraft, the *Staffel* losing only two. Kalden himself scored 19, bringing his total of victories to 64, whilst Ofw. Heinz Marquardt scored 26, giving him a total of 89.

During the winter of 1944/45 several new *Jagdgeschwader* were established. One of these, the Italian

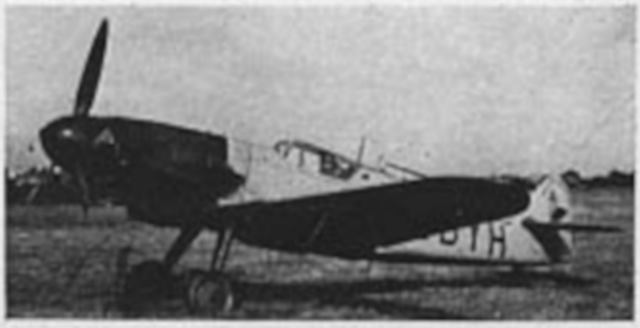
"JG 1" was formed from Italian Fascist personnel to defend what remnants of that country were not in Allied hands. With the concentration on fighter operations, two *Kampfgeschwader* were equipped with Bf 109's as KG(J)'s. These units were: I./KG(J) 6 with Bf 109K-4's, II./KG(J) 6 with Bf 109G-6's, III./KG(J) 6 with Bf 109G-10's, I./KG(J) 55 with Bf 109G-10's and II./KG(J) 55 with Bf 109K-4's.

The final desperate attempt by the *Luftwaffe* to gain superiority in the west was made on New Year's Day 1945 under the code name "Operation Herrmann". This was an all-out attack by no less than 750 *Luftwaffe* fighters against Allied airfields in Holland, Belgium and Luxembourg. For the first time, the Bf 109K-2 and K-4 were used operationally, each *Gruppe* being led by a flight of Ju 88 G night fighters. Units taking part in the assault included:—

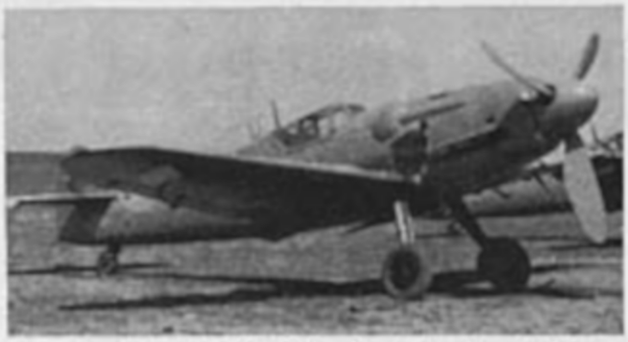
I, II and III./JG 1	Fw 190A-8.
I, II and III./JG 2	Fw 190D-9.
I and III./JG 3	Bf 109G-14.
IV.(Sturm)/JG 3	Fw 190A-8.
I, III and IV./JG 4	Bf 109G-6, G-10 and G-14.
II.(Sturm)/JG 4	Fw 190A-8.
I and III./JG 11	Fw 190A-8 and D-9.
II./JG 11	Bf 109K-4.
I, II and III./JG 26	Fw 190D-9.
I, II, III and IV./JG 27	Bf 109G-6, G-10, K-2 and K-4.
I, II, III and IV./JG 53	Bf 109G-10, G-14, K-2 and K-4.
III and IV./JG 54	Fw 190A-8 and D-9.
I, II and III./JG 77	Bf 109G-6, G-10 and G-14.

Also taking part in the operation was the training unit JG 104, which was temporarily made operational. In the British area 137 aircraft were claimed as destroyed plus 115 in the American zone. *Luftwaffe* losses were in the region of 200 including some of the most experienced of surviving pilots.

This was virtually the last fling of the *Luftwaffe's* piston engined fighter formations. With the concentration by Allied bombers on the remaining German oil stocks, supplies of aviation fuel rapidly diminished, and most of the remaining stocks were channelled to the jet propelled units. One further operation by a Bf 109G unit is notable however. Following suggestions by Obst. Hajo Herrmann, a special fighter *Geschwader* of four *Gruppen* was formed designated *Rammkommando Elbe*. Most of the pilots were students with perhaps one or two solo flights to their credit and all were volunteers whose enthusiasm was bolstered by patriotic speeches and martial music. Only one mission was undertaken by the unit on 7th April, 1945 when 120 aircraft took off to intercept a U.S.A.A.F. bomber formation. Only 15 returned.



Avia C.10 of the Czechoslovakian Air Police, 1946. See p.19 for colour details. (Photo: Zdenek Titz)



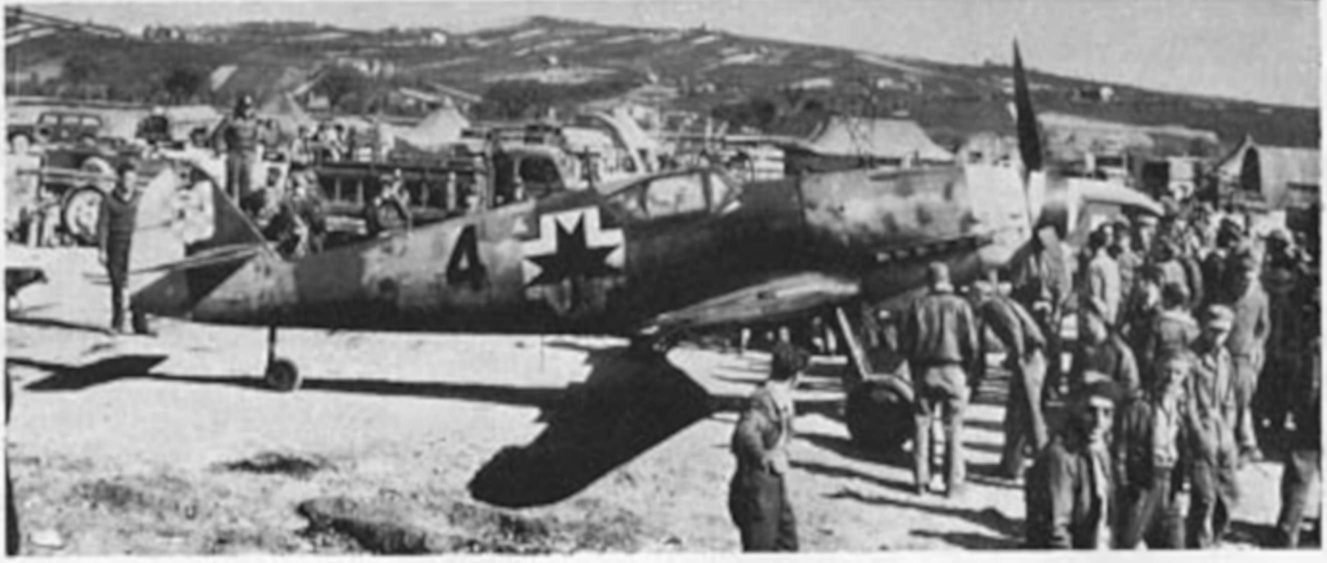
Jumo-engined Avia C.210 of the Czechoslovakian Air Force; note that the original Galland hood is still used. (Photo: Zdenek Titz)

FOREIGN USE OF THE GUSTAV

Bulgaria; 145 Messerschmitt Bf 109G's were delivered to the Royal Bulgarian Air Force's Sixth Fighter Regiment at Karlovo and were used in the defence of Sofia in April 1944.

Croatia; A small number of Bf 109G-10's were delivered to the Croatian Air Force and a small Croatian unit was set up inside *Jagdgeschwader* 52 as its 15th *Staffel*.

The G-10 of 15/JG 52 surrendered by its Croatian pilot at Falconara, Italy, in April 1945. This aircraft is the subject of a colour illustration on p.19 of this Profile. (Photo: U.S.A.F. Official).



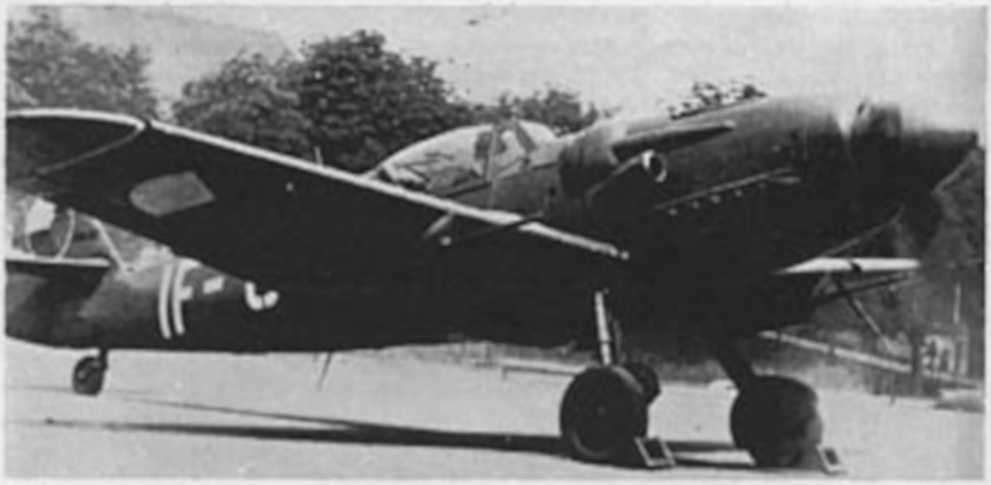
A typical Gustav pilot and his aircraft. The pilot is Unteroffizier (Sergeant Pilot) Hans Seyringer; between July 1943 and January 1944 he flew his Bf 109G-6/U4 with JG 27 "Afrika", on daylight interception missions over Germany. During his tour of Reichsverteidigung *duty he shot down two B-17 Flying Fortresses, one P-38 Lightning, and one P-47 Thunderbolt. He himself was shot down, probably by a P-51 Mustang, in February of 1944; he bailed out and landed safely.* (Photo: courtesy Hans Obert)

Czechoslavakia (including Slovakia); Fifteen Bf 109G's were sent to Slovakia from Germany in 1944 and plans were made for the national production of the fighter. The Avia factory at Prague-Cakovice was to produce the Bf 109G-14 under licence but no aircraft were completed before German forces withdrew from Slovakia. Following the re-establishment of the Czechoslovak nation, assembly of the Bf 109G-14 was continued at Cakovice under the designation C-10. A two seat trainer was also built, but only two of this variant, designated Avia C-110, were completed. The single and two seat variants entered service with the Czech Air Force as the S-99 and CS-99 respectively, but lack of DB 605 power plants precluded series production.

The only alternative engine available in quantity was the 1,350 h.p. Jumo 211 F but this engine necessitated redesigned engine mountings and a broad, paddle bladed airscrew. This aircraft, which was designated C-210 "Mezec" had vicious handling characteristics and its take-off and landing performance could only be described as frightening! Nevertheless, the machine entered service with the Czech Air Force, as the S-199 and a two seat variant, the CS-199 also saw service. In March 1948 several C-210's were sold to Israel for use against the Egyptian Air Force. Once again Spitfires and Messerschmitts clashed, but the Israelis were far from complimentary about their new mounts. Despite its vicious characteristics, the S-199 and CS-199 remained operational with units of the Czech National Security Guard until 1957.

Finland; Thirty Bf 109G-2's and one hundred and thirty two Bf 109G-6's were diverted to Finland during 1943 and 1944 for use in that country's fight against the Russians. The first unit to receive the aircraft was the elite HLeLv 34 under Maj. Eino Luukanen based at Utti. Up to the end of August 1944, the unit scored 270 victories for the loss of eleven pilots and twenty-two aircraft. Aces included

Probably a G-1 Trop. in Tunisia or Southern Russia, this aircraft is finished in standard European scheme with mottled fuselage sides.



Mezec (*Mule*) *was the name by which the Avia C.210 was known to Czechoslovak pilots; its handling characteristics were said to be vicious. Note that this aircraft has a new blown canopy.*
(Photo: Zdenek Titz)

Juutulainen (94 victories), Hasse Wind (78), Luukanen (54), Lektovaara (44), Puhakka (43) and Tuominen (43). By September 1944, all Finnish fighter units were equipped with the Bf 109G, including a few G-14's abandoned by the *Luftwaffe* during their retreat. These machines soldiered on until finally replaced by the de Havilland Vampire in 1952.

Hungary; A total of 59 German-built and about 700 home-produced Bf 109G's were delivered to the Royal Hungarian Air Force. The nationally-produced machines were built by a factory at Györ and the Hungarian Wagonwerke at Budapest. The first units to be equipped with the aircraft were the 5/1 and 5/2 Squadrons of the 5/I Fighter Group. In November 1943, 5/1 was withdrawn from operations in Russia and 5/2 was redesignated as the 102nd. Independent Fighter Squadron. In June 1944, the new unit was expanded into a Group of two squadrons and a new Bf 109G unit, the 101st. Fighter Group established to defend Hungary itself under Obstlt. Alador Heppes. This unit, which was known as the "Puma Group" was later expanded into a Regiment of six Squadrons. From the spring of 1945, Hungarian fighter units were switched from bomber interception duties to attacking Soviet ground forces. By the end of March the units had withdrawn to Austria and by April 1945, lack of fuel precluded further operations.

Rumania; Seventy Gustavs (mainly G-8's) were exported to Rumania, but this air arm was so weakened by early 1944 that it was unable to put up any effective opposition against Allied forces. Sixteen Bf 109G's were also built by the I.A.R. factory at Brasnov before it was destroyed in an Allied Air attack.

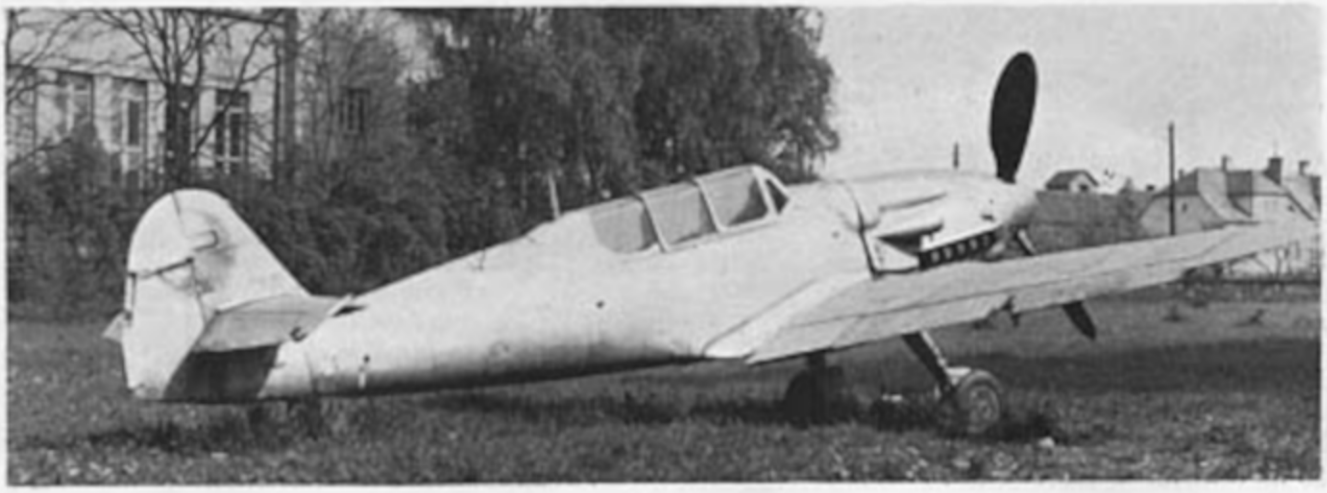
Spain; The Spanish Air Force can be said to have operated the Bf 109 longer than any other. The Bf 109B received its operational debut in Spain in March 1937 and the HA 1112-M1L is still in second-line service. Forty-five Bf 109B's, (Spanish designation C-4), 15 Bf 109E's (C-5), 10 Bf 109F's (C-10) and 25 Bf 109G (C-12) airframes were delivered to Spain during the Second World War.

At the close of the war the 25 Bf 109G airframes were equipped with the 1,300 h.p. Hispano Suiza 12-Z-89 engine, the first aircraft, designated HA 1109-J1L making its initial flight on 2nd March 1945. The first genuine Spanish production version was the HA 1109-K1L which flew in March 1951. This differed in being powered by the more reliable Hispano Suiza 12-Z-17 engine and about 200 aircraft were built. The HA 1110-K1L, which flew for the first time in October 1953, was a two seat conversion trainer and the HA 1112-K1L was equipped with a combination of rockets and cannon.

After supplies of the Hispano Suiza engine failed, further variants used the Rolls Royce Merlin; but these do not fall within the scope of this *Profile*.

Switzerland; Twelve Bf 109G-6's were delivered to the Swiss Air Force in return for the Swiss destroying a special radar equipped Bf 110G-4/R7 night fighter which had force-landed near Dubendorf on 28th

The two-seat trainer version of the C.210, which carried the Czechoslovakian Air Force designation CS.199. This machine was photographed at Celechovice, near Prostejov, in 1965.
(Photo: Zdenek Titz)



April 1944. The Bf 109G's were delivered to *Fliegerkompagnie* 7 and were coded J-701 to J-712 inclusive and a further two aircraft which strayed over Swiss territory were impressed as J-713 and J-714. The aircraft saw little service as slipping German production standards meant that they were rarely servicable.

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The publishers wish to thank the Officers of the Texas Aviation Historical Society for their kind permission to examine a transcript of an address made to the Society by the late Karl Baur.

UNITS OPERATING THE Bf 109G AND K

Fighter units

Stab, I, II, III and IV./JG 1 "*Oesau*".
Stab, I, II and II./JG 2 "*Richthofen*".
Stab, I, II and III./JG 3 "*Udet*".
Stab, I, II, III and IV./JG 4.
(Formed in August 1944.)
Stab, I, II, III and IV./JG 5 "*Eismeer*".
Stab and III./JG 6 "*Horst Wessel*".
(Formed from ZG 26 and parts of JG 5 in August 1944.)
JG 7 "*Nowotny*".
(Equipped with a small number of Bf 109Gs during its formation.)
Stab, I, II, III, 10 and 11./JG 11.
(11./JG 11 was equipped mainly with the Bf 109T-2.)
JGr 25 (Special anti-Mosquito unit).
Stab, II and III./JG 26 "*Schlageter*".
Stab, I, II. III and IV./JG 27 "*Afrika*".
JGr 50 (Special anti-Mosquito unit).
Stab, I, II, III and IV./JG 51 "*Mölders*".
Stab, I, II, III and 15./JG52.
(15./JG 52 was a Croatian unit.)
Stab, I, II, III and IV./JG 53 "*Pik As*".
Stab, I, II and III./JG 54 "*Grünherz*".
Stab/JG 76.
Stab, I, II and III./JG 77 "*Herzas*".
Stab, I, II and III./KG(J) 6.
Stab, I and II./KG(J) 55.

Night and "Wilde Sau" Units

I, III and IV./JG 300 "*Herrmann*".
Stab, I, II, III and IV./JG 301.
Stab, I, II and III./JG 302 NJGr 10.
Stab, I, II and III./NJG 11.

Ground Attack Units

1, 2 and 3./Sch.G 1.
1, 2 and 3./Sch.G 2.

Reconnaissance Units

The Bf 109G (mainly the G-8 variant) was used in small numbers together with the Fw 189A and Fw 190A, by the following reconnaissance units:
NAGr 1, NAGr 2, NAGr 3, NAGr 4, NAGr 5, NAGr 8, NAGr 9, NAGr 10, NAGr 11, NAGr 12, NAGr 13, NAGr 14, NAGr 15, Aufkl.Gr 100, Aufkl.Gr 120, Aufkl.Gr 122, Aufkl.Gr 123, Aufkl.Gr 124.

SPECIFICATIONS: MESSERSCHMITT Bf 109G-6

Dimensions: Span 32 ft. 6½ in. Length 29 ft. 8 in. Height 8 ft. 6 in. Wing area 174·375 sq. ft.

Power Plant: One 1,475 h.p. Daimler Benz DB 605 A-1 12-cylinder liquid-cooled in-line engine.

Armament: Two 13 mm. MG 131 machine-guns mounted above the engine cowling with 300 r.p.g., one engine mounted 20 mm. MG 151/20 cannon with 150 r.p.g. and two underwing mounted 20 mm. MG 151/20s with 120 r.p.g.

Weights: Empty 5,900 lb. Loaded 6,950 lb. Maximum loaded 7,500 lb.

Performance: Maximum speed 387 m.p.h. at 22,970 ft., 338 m.p.h. at sea level. Climb to 19,000 ft. was 6 minutes. Service ceiling 38,500 ft. Maximum ceiling 39,750 ft. Range 450 miles at 330 m.p.h. at 19,000 ft.; 615 miles at 260 m.p.h. at 19,000 ft.

MESSERSCHMITT Bf 109K-4

Dimensions: Span 32 ft. 6½ in. Length 29 ft. 4 in. Height 8 ft. 6 in. Wing area 174·375 sq. ft.

Power Plant: One 1,550 h.p. Daimler Benz DB 605 ASCM/DCM 12-cylinder liquid-cooled in-line engine.

Armament: Two 15 mm. MG 151 cannon mounted above the engine cowling and one 30 mm. MK 103 or 108 cannon firing through the spinner.

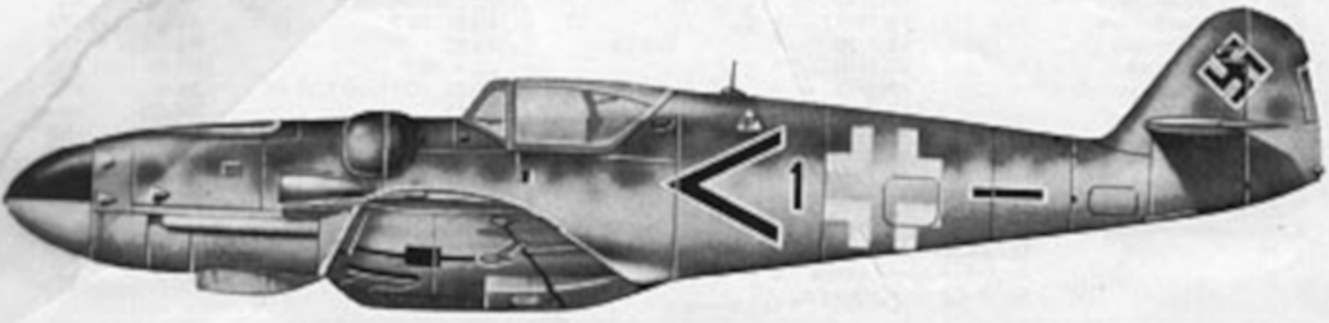
Weight: Maximum loaded 7,438 lb.

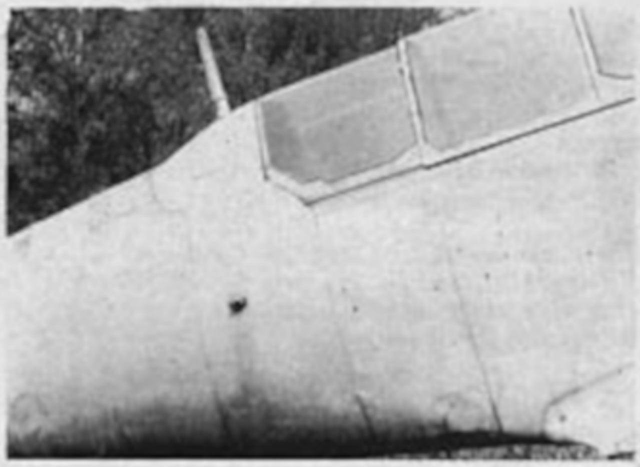
Performance: Maximum speed 377 m.p.h. at sea level; 452 m.p.h. at 19,685 ft. Initial climb rate 4,823 ft./min. Climb to 16,400 ft. was 3 minutes, to 32,800 ft. was 6·7 minutes. Service ceiling 41,000 ft. Range 365 miles. Endurance 50 minutes.

KEY TO COLOUR ILLUSTRATIONS

21. Bf 109G-2 of 34th Fighter Squadron (HLeLv 34) of Finnish Air Force; Utti, Finland, 1943, during the "Continuation War".
22. Bf 109G-6 of 34th Fighter Squadron, Finnish Air Force; aircraft of Major Eino Luukkanen, third ranking Finnish fighter pilot of the war with 54 victories. 'P' shows the insignia of HLeLv 34. The national insignia changed from swastika to roundel on 4th September 1944; note painting-out of fuselage band and outer rim of old insignia.
23. Bf 109G-10 of 15th Staffel, JG 52; this unit was composed of Croatian Air Force personnel and the aircraft were marked accordingly. This particular machine was flown to the U.S.A.A.F. base at Falconara, Italy and surrendered by its pilot in April 1945. This suggests that the unit was on detached duties operating against insurgent forces in the Balkans at this time; many Balkan "puppet" units of the German armed forces were engaged in these operations late in the war. 'Q' shows the "Cross of King Zvonomir" insignia carried by Croatian Air Force machines in the wing and fuselage positions, and 'R' shows the "Ustachi" emblem carried on the tail. It is unusual to encounter the complete emblem with the U-monogram in the fin position, the shield only being more often used.
24. Bf 109G-6, 14th Fighter Squadron, Slovak Air Force. This unit provided air support for the Slovak Fast Division in the Crimean fighting of spring 1943, and subsequently operated in defence of the city of Bratislava. 'S' shows the squadron insignia carried below and immediately ahead of the cockpit.
25. Bf 109G-6 of the Combined Squadron, Slovak Insurgent Air Force, during the Slovak national uprising of September 1944. The unit operated from Tri Duby (Three Oaks) airfield near Zvelou. 'T' shows the wing and tail insignia of the Insurgent Air Force; it appeared with the white segment to port on both wings.

Messerschmitt Bf 109K-4 seen on a German airfield in April 1945. The machine bears standard Luftwaffe *late-war markings and camouflage scheme, with white outline crosses on the fuselage sides and upper wing surfaces. Note the unusual position of the swastika, overlapping both fin and rudder. The spinner was halved in black and white, and the fuselage markings were black with a thin white outline. They probably indicate that the aircraft was flown by the adjutant of the second* Gruppe *of an unidentified* Jagdgeschwader, *who also acted as* Staffelkapitän *of the 8th* Staffel, *the* Gruppe *in this case comprising four* Staffeln. *In April 1945 the second* Gruppen *of both JG 27* "Afrika" *and JG 53* "Pik As" *are known to have had some Bf 109K's on the strength. Note that this aircraft's lower contours are distorted, apparently by a rack for bombs or drop-tank.* (by courtesyE. J. Crek)





Cockpit and cowling details of the CS-199 trainer, the Avia-built G-12 with Junkers Jumo engine used by the Czechoslovakian Air Force in the post-war years. (Photos: Zdenek Titz)

26. Avia C.10, Czechoslovakian-built version of the Bf 109G-14, serving with the Czechoslovakian Air Police in 1945–46. The service designation of this type was S.99. 'U' shows the Air Police insignia.

27. Avia C.110, Czechoslovakian-built version of the Bf 109G-12 trainer, Czechoslovakian Air Force, 1946. Air Force designation CS.99.

28. Avia C.210, Czechoslovakian-built version of Bf 109G-14 with Jumo 211F engine, Czechoslovakian Air Force, 1946–48. Air Force designation, S.199.

29. Avia C.210C, Czechoslovakian-built version of Bf 109G-12 trainer with Junkers Jumo 211F engine, Czechoslovakian Air Force, 1946–48. Air Force designation, CS.199.

30. Avia C.210 of the Israeli Defence Force/Air Force, 1948–50. A number of these aircraft were purchased by Israel from Czechoslovakia for the defence of Israel against Egyptian aggression. Despite their poor flying characteristics, these machines operated with surprising success against more sophisticated Egyptian equipment which included late-model Spitfires. This record is a credit to the superior skill and morale of the Israeli and foreign volunteer pilots. 'V' shows the I.D.F./A.F. wing and fuselage insignia.

LUFTWAFFE ACES SCORING OVER 150 VICTORIES

Pilot	Born	Died	Units served with	Awards	Kills
Maj. Horst Adameit	8/8/12	2/8/44	JG 54	RK-EL	166
Obstlt. Heinrich Bär	25/3/13	28/4/57	JG 51, JG 77, JG 1, JG 3	RK-S	220
Obstlt. Gerhard Barkhorn	20/3/19		JG 2, JG 52, JG 6, JV 44	RK-S	301
Maj. Wilhelm Batz	21/5/16		JG52	RK-EL	237
Oblt. Hans Beisswenger	8/11/16	6/3/43	JG 54	RK-EL	152
Hptm. Kurt Hans Friedrich Brändle	19/1/12	3/11/43	JG 53, JG 3	RK	180
Hptm. Joachim Brendel	27/4/21		JG 52, JG 51	RK-EL	189
Lt. Peter Düttmann	23/5/23		JG 52	RK	152
Maj. Heinrich Ehler	14/9/17	4/4/45	JG 77, JG 5, JG 7	RK-EL	204
Gen. Maj. Gordon Gollob	16/6/12		JG 3, JG 77	RK-Br	150
Oberst Hermann Graf	24/10/12		JG 52, JGr 50, JG 11	RK-Br	211
Maj. Anton Hackl	25/3/15		JG 77, JG 11, JG 26, JG 300	RK-S	190
Oblt. Anton Hafner	2/6/18	17/10/44	JG 51	RK-EL	204
Maj. Erich Hartmann	19/4/22		JG 52	RK-Br	352
Oblt. Günther Jösten	7/11/21		JG 52	—	178
Hptm. Joachim Kirschner	7/6/20	17/12/43	JG 3, JG 27	RK-EL	188
Oblt. Otto Kittel	21/2/17	14/2/45	JG 54	RK-S	267
Hptm. Walter Krupinski	11/11/20		JG 52, JG 11, JG 26, JV 44	RK-EL	197
Hptm. Emil Lang	14/1/09	3/9/44	JG 54, JG 26	RK-EL	173
Hptm. Helmut Lipfert	6/8/16		JG 52, JG 53	RK	203
Hptm. Hans Joachim Marseille	13/12/19	30/9/42	JG 27	RK-Br	158
Maj. Walter Nowotny	7/12/20	8/11/44	JG 54, Kdo Nowotny	RK-Br	258
Obstlt. Hans Philipp	17/3/17	8/10/43	JG 54, JG 1	RK-S	206
Maj. Gunther Rall	10/3/18		JG 52, JG 11, JG 300	RK-S	275
Oblt. Ernst Wilhelm Reinert	2/2/19		JG 77, JG 27, JG 7	RK-S	174
Maj. Erich Rudorffer	1/11/17		JG 2, JG 54, JG 7	RK-EL	222
Hptm. Günther Schack	12/11/17		JG 51, JG 3	RK-EL	174
Hptm. Heinz Schmidt	10/4/20	5/9/43	JG 52	RK-EL	173
Oblt. Walter Schuck	30/7/14		JG 5, JG 7	RK-EL	200
Obst. Johannes Steinhoff	15/9/13		JG 52, JG 77, JG 7, JV 44	RK-S	176
Hptm. Max Stotz	13/2/12	19/8/43	JG 54	RK-EL	189
Hptm. Heinrich Sturm	?	22/12/44	JG 52	RK	158
Oblt. Gerhard Tyben	22/2/22		JG 3, JG 54	—	157
Maj. Theodore Weissenburger	21/12/14	10/6/50	JG 77, JG 5, JG 7	RK-EL	208
Obst. Wolf-Dietrich Wilcke	11/3/13	23/3/44	JG 53, JG 3, JG 1	RK-S	162

Abbreviations of Awards: RK = *Ritterkreuz* = Knight's Cross.
EL = *Eichenlaub* = Oak Leaves.
S = *Schwerten* = Swords.
Br = *Brillanten* = Diamonds.

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